



## SEQUENCE LISTING

<110> Hudson, Thomas J. Engert, James C. Richter, Andrea

<120> IDENTIFICATION OF ARSACS MUTATIONS AND METHODS OF USE THEREFOR

<130> 2825.1021-003

<140> US 09/693,205
<141> 2000-10-20

<150> US 60/160,588
<151> 1999-10-20

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Leu Arg Gln Ile Gly Leu Lys Asn Glu Ala Ser Leu Lys Glu Lys Asp Val Val Gln Val Ala Lys Lys Ile Glu Ala Leu Gln Val Gly Ala Cys Pro Asp Gln Asp Val Leu Leu Lys Lys Ala Lys Thr Leu Leu Val Leu Asn Lys Asn His Thr Leu Leu Gln Ser Ser Glu Gly Lys Met Thr Leu Lys Lys Ile Lys Trp Val Pro Ala Cys Lys Glu Arg Pro Pro Asn Tyr Pro Gly Ser Leu Val Trp Lys Gly Asp Leu Cys Asn Leu Cys Ala Pro Pro Asp Met Cys Asp Val Gly His Ala Ile Leu Ile Gly Ser Ser Leu Pro Leu Val Glu Ser Ile His Val Asn Leu Glu Lys Ala Leu Gly Ile Phe Thr Lys Pro Ser Leu Ser Ala Val Leu Lys His Phe Lys Ile Val Val Asp Trp Tyr Ser Ser Lys Thr Phe Ser Asp Glu Asp Tyr Tyr Gln Phe Gln His Ile Leu Leu Glu Ile Tyr Gly Phe Met His Asp His Leu Asn Glu Gly Lys Asp Ser Phe Arg Ala Leu Lys Phe Pro Trp Val Trp Thr Gly Lys Lys Phe Cys Pro Leu Ala Gln Ala Val Ile Lys Pro Ile His Asp Leu Asp Leu Gln Pro Tyr Leu His Asn Val Pro Lys Thr Met Ala Lys Phe His Gln Leu Phe Lys Val Cys Gly Ser Ile Glu Glu Leu Thr Ser Asp His Ile Ser Met Val Ile Gln Lys Ile Tyr Leu Lys Ser Asp Gln Asp Leu Ser Glu Gln Glu Ser Lys Gln Asn Leu His Leu Met Leu Asn Ile Ile Arg Trp Leu Tyr Ser Asn Gln Ile Pro Ala Ser Pro Asn Thr Pro Val Pro Ile His His Ser Lys Asn Pro Ser Lys Leu Ile Met Lys Pro Ile His Glu Cys Cys Tyr Cys Asp Ile Lys Val Asp Asp Leu Asn Asp Leu Leu Glu Asp Ser Val Glu Pro Ile Ile Leu Val His Glu Asp Ile Pro Met Lys Thr Ala Glu Trp Leu Lys Val Pro Cys Leu Ser Thr Arg Leu Ile Asn Pro Glu Asn Met Gly Phe Glu Gln Ser Gly Gln Arg Glu Pro Leu Thr Val Arg Ile Lys Asn Ile Leu Glu Glu Tyr Pro Ser Val Ser Asp Ile Phe Lys Glu Leu Leu Gln Asn Ala Asp Asp Ala Asn Ala Thr Glu Cys Ser Phe Leu Ile Asp Met Arg Arg Asn Met Asp Ile Arg Glu Asn Leu Leu Asp Pro Gly Met Ala Ala Cys His Gly Pro Ala Leu Trp Ser Phe Asn Asn Ser Gln Phe Ser Asp Ser Asp Phe Val Asn Ile Thr Arg Leu Gly Glu Ser Leu Lys Arg Gly Glu Val 

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Asp Lys Val Gly Lys Phe Gly Leu Gly Phe Asn Ser Val Tyr His Ile Thr Asp Ile Pro Ile Ile Met Ser Arg Glu Phe Met Ile Met Phe Asp Pro Asn Ile Asn His Ile Ser Lys His Ile Lys Asp Lys Ser Asn Pro Gly Ile Lys Ile Asn Trp Ser Lys Gln Gln Lys Arg Leu Arg Lys Phe Pro Asn Gln Phe Lys Pro Phe Ile Asp Val Phe Gly Cys Gln Leu Pro Leu Thr Val Glu Ala Pro Tyr Ser Tyr Asn Gly Thr Leu Phe Arg Leu Ser Phe Arg Thr Gln Gln Glu Ala Lys Val Ser Glu Val Ser Ser Thr Cys Tyr Asn Thr Ala Asp Ile Tyr Ser Leu Val Asp Glu Phe Ser Leu Cys Gly His Arg Leu Ile Ile Phe Thr Gln Ser Val Lys Ser Met Tyr Leu Lys Tyr Leu Lys Ile Glu Glu Thr Asn Pro Ser Leu Ala Gln Asp Thr Val Ile Ile Lys Lys Ser Cys Ser Ser Lys Ala Leu Asn Thr Pro Val Leu Ser Val Leu Lys Glu Ala Ala Lys Leu Met Lys Thr Cys Ser Ser Ser Asn Lys Lys Leu Pro Ser Asp Glu Pro Lys Ser Ser Cys Ile Leu Gln Ile Thr Val Glu Glu Phe His His Val Phe Arg Arg Ile Ala Asp Leu Gln Ser Pro Leu Phe Arg Gly Pro Asp Asp Pro Ala 1025 1030 Ala Leu Phe Glu Met Ala Lys Ser Gly Gln Ser Lys Lys Pro Ser Asp Glu Leu Ser Gln Lys Thr Val Glu Cys Thr Thr Trp Leu Leu Cys Thr Cys Met Asp Thr Gly Glu Ala Leu Lys Phe Ser Leu Ser Glu Ser Gly Arg Arg Leu Gly Leu Val Pro Cys Gly Ala Val Gly Val Gln Leu Ser Glu Ile Gln Asp Gln Lys Trp Thr Val Lys Pro His Ile Gly Glu Val Phe Cys Tyr Leu Pro Leu Arg Ile Lys Thr Gly Leu Pro Val His Ile Asn Gly Cys Phe Ala Val Thr Ser Asn Arg Lys Glu Ile Trp Lys Thr Asp Thr Lys Gly Arg Trp Asn Thr Thr Phe Met Arg His Val Ile Val Lys Ala Tyr Leu Gln Val Leu Ser Val Leu Arg Asp Leu Ala Thr Ser Gly Glu Leu Met Asp Tyr Thr Tyr Tyr Ala Val Trp Pro Asp Pro Asp Leu Val His Asp Asp Phe Ser Val Ile Cys Gln Gly Phe Tyr Glu Asp Ile Ala His Gly Lys Gly Lys Glu Leu Thr Lys Val Phe Ser Asp Gly Ser Thr Trp Val Ser Met Lys Asn Val Arg Phe Leu Asp Asp Ser Ile Leu Lys Arg Arg Asp Val Gly Ser Ala Ala Phe Lys Ile Phe Leu Lys 

A.

Tyr Leu Lys Lys Thr Gly Ser Lys Asn Leu Cys Ala Val Glu Leu Pro Ser Ser Val Lys Leu Gly Phe Glu Glu Ala Gly Cys Lys Gln Ile Leu Leu Glu Asn Thr Phe Ser Glu Lys Gln Phe Phe Ser Glu Val Phe Phe Pro Asn Ile Gln Glu Ile Glu Ala Glu Leu Arg Asp Pro Leu Met Ile Phe Val Leu Asn Glu Lys Val Asp Glu Phe Ser Gly Val Leu Arg Val Thr Pro Cys Ile Pro Cys Ser Leu Glu Gly His Pro Leu Val Leu Pro Ser Arg Leu Ile His Pro Glu Gly Arg Val Ala Lys Leu Phe Asp Ile Lys Asp Gly Arg Phe Pro Tyr Gly Ser Thr Gln Asp Tyr Leu Asn Pro Ile Ile Leu Ile Lys Leu Val Gln Leu Gly Lys Ala Lys Asp Asp Ile Leu Trp Asp Asp Met Leu Glu Arg Ala Val Ser Val Ala Glu Ile Asn Lys Ser Asp His Val Ala Ala Cys Leu Arg Ser Ser Ile Leu Leu Ser Leu Ile Asp Glu Lys Leu Lys Ile Arg Asp Pro Arg Ala Lys Asp Phe Ala Ala Lys Tyr Gln Thr Ile Arg Phe Leu Pro Phe Leu Thr Lys Pro Ala Gly Phe Ser Leu Asp Trp Lys Gly Asn Ser Phe Lys Pro Glu Thr Met Phe Ala Ala Thr Asp Leu Tyr Thr Ala Glu His Gln Asp Ile Val Cys Leu Leu Gln Pro Ile Leu Asn Glu Asn Ser His Ser Phe Arg Gly Cys Gly Ser Val Ser Leu Ala Val Lys Glu Phe Leu Gly Leu Leu Lys Lys Pro Thr Val Asp Leu Val Ile Asn Gln Leu Lys Glu Val Ala Lys Ser Val Asp Asp Gly Ile Thr Leu Tyr Gln Glu Asn Ile Thr Asn Ala Cys Tyr Lys Tyr Leu His Glu Ala Leu Met Gln Asn Glu Ile Thr Lys Met Ser Ile Ile Asp Lys Leu Lys Pro Phe Ser Phe Ile Leu Val Glu Asn Ala Tyr Val Asp Ser Glu Lys Val Ser Phe His Leu Asn Phe Glu Ala Ala Pro Tyr Leu Tyr Gln Leu Pro Asn Lys Tyr Lys Asn Asn Phe Arg Glu Leu Phe Glu Thr Val Gly Val Arg Gln Ser Cys Thr Val Glu Asp Phe Ala Leu Val Leu Glu Ser Ile Asp Gln Glu Arg Gly Thr Lys Gln Ile Thr Glu Glu Asn Phe Gln Leu Cys Arg Arg Ile Ile Ser Glu Gly Ile Trp Ser Leu Ile Arg Glu Lys Lys Gln Glu Phe Cys Glu Lys Asn Tyr Gly Lys Ile Leu Leu Pro Asp Thr Asn Leu Met Leu Leu Pro Ala Lys Ser Leu Cys Tyr Asn Asp Cys Pro Trp Ile Lys Val Lys Asp 1715 1720 

Thr Thr Val Lys Tyr Cys His Ala Asp Ile Pro Arg Glu Val Ala Val Lys Leu Gly Ala Val Pro Lys Arg His Lys Ala Leu Glu Arg Tyr Ala Ser Asn Val Cys Phe Thr Thr Leu Gly Thr Glu Phe Gly Gln Lys Glu Lys Leu Thr Ser Arg Ile Lys Ser Ile Leu Asn Ala Tyr Pro Ser Glu 1780 1785 Lys Glu Met Leu Lys Glu Leu Leu Gln Asn Ala Asp Asp Ala Lys Ala Thr Glu Ile Cys Phe Val Phe Asp Pro Arg Gln His Pro Val Asp Arg Ile Phe Asp Asp Lys Trp Ala Pro Leu Gln Gly Pro Ala Leu Cys Val Tyr Asn Asn Gln Pro Phe Thr Glu Asp Asp Val Arg Gly Ile Gln Asn Leu Gly Lys Gly Thr Lys Glu Gly Asn Pro Tyr Lys Thr Gly Gln Tyr Gly Ile Gly Phe Asn Ser Val Tyr His Ile Thr Asp Cys Pro Ser Phe Ile Ser Gly Asn Asp Ile Leu Cys Ile Phe Asp Pro His Ala Arg Tyr 1890 1895 Ala Pro Gly Ala Thr Ser Ile Ser Pro Gly Arg Met Phe Arg Asp Leu Asp Ala Asp Phe Arg Thr Gln Phe Ser Asp Val Leu Asp Leu Tyr Leu Gly Thr His Phe Lys Leu Asp Asn Cys Thr Met Phe Arg Phe Pro Leu Arg Asn Ala Glu Met Ala Lys Val Ser Glu Ile Ser Ser Val Pro Ala 1955 1960 Ser Asp Arg Met Val Gln Asn Leu Leu Asp Lys Leu Arg Ser Asp Gly Ala Glu Leu Leu Met Phe Leu Asn His Met Glu Lys Ile Ser Ile Cys 1990 1995 Glu Ile Asp Lys Ser Thr Gly Ala Leu Asn Val Leu Tyr Ser Val Lys Gly Lys Ile Thr Asp Gly Asp Arg Leu Lys Arg Lys Gln Phe His Ala Ser Val Ile Asp Ser Val Thr Lys Lys Arg Gln Leu Lys Asp Ile Pro Val Gln Gln Ile Thr Tyr Thr Met Asp Thr Glu Asp Ser Glu Gly Asn Leu Thr Thr Trp Leu Ile Cys Asn Arg Ser Gly Phe Ser Ser Met Glu Lys Val Ser Lys Ser Val Ile Ser Ala His Lys Asn Gln Asp Ile Thr Leu Phe Pro Arg Gly Gly Val Ala Ala Cys Ile Thr His Asn Tyr Lys Lys Pro His Arg Ala Phe Cys Phe Leu Pro Leu Ser Leu Glu Thr Gly Leu Pro Phe His Val Asn Gly His Phe Ala Leu Asp Ser Ala Arg Arg 2130 2135 Asn Leu Trp Arg Asp Asp Asn Gly Val Gly Val Arg Ser Asp Trp Asn 2155 2160 Asn Ser Leu Met Thr Ala Leu Ile Ala Pro Ala Tyr Val Glu Leu Leu Ile Gln Leu Lys Lys Arg Tyr Phe Pro Gly Ser Asp Pro Thr Leu Ser 

Val Leu Gln Asn Thr Pro Ile His Val Val Lys Asp Thr Leu Lys Lys 2200 2205 2195 Phe Leu Ser Phe Phe Pro Val Asn Arg Leu Asp Leu Gln Pro Asp Leu 2220 2215 Tyr Cys Leu Val Lys Ala Leu Tyr Asn Cys Ile His Glu Asp Met Lys 2230 2235 Arg Leu Leu Pro Val Val Arg Ala Pro Asn Ile Asp Gly Ser Asp Leu 2250 2245 His Ser Ala Val Ile Ile Thr Trp Ile Asn Met Ser Thr Ser Asn Lys 2260 2265 Thr Arg Pro Phe Phe Asp Asn Leu Leu Gln Asp Glu Leu Gln His Leu 2280 2285 Lys Asn Ala Asp Tyr Asn Ile Thr Thr Arg Lys Thr Val Ala Glu Asn 2295 2300 Val Tyr Arg Leu Lys His Leu Leu Leu Glu Ile Gly Phe Asn Leu Val 2310 2315 Tyr Asn Cys Asp Glu Thr Ala Asn Leu Tyr His Cys Leu Ile Asp Ala 2325 2330 Asp Ile Pro Val Ser Tyr Val Thr Pro Ala Asp Ile Arg Ser Phe Leu 2345 2340 2350 Met Thr Phe Ser Ser Pro Asp Thr Asn Cys His Ile Gly Lys Leu Pro 2360 2365 2355 Cys Arg Leu Gln Gln Thr Asn Leu Lys Leu Phe His Ser Leu Lys Leu 2375 2380 Leu Val Asp Tyr Cys Phe Lys Asp Ala Glu Glu Asn Glu Ile Glu Val 2390 2395 Glu Gly Leu Pro Leu Leu Ile Thr Leu Asp Ser Val Leu Gln Thr Phe 2405 2410 Asp Ala Lys Arg Pro Lys Phe Leu Thr Thr Tyr His Glu Leu Ile Pro 2420 2425 Ser Arg Lys Asp Leu Phe Met Asn Thr Leu Tyr Leu Lys Tyr Ser Asn 2435 2440 2445 Ile Leu Leu Asn Cys Lys Val Ala Lys Val Phe Asp Ile Ser Ser Phe 2450 2455 2460 Ala Asp Leu Leu Ser Ser Val Leu Pro Arg Glu Tyr Lys Thr Lys Ser 2465 2470 2475 Cys Thr Lys Trp Lys Asp Asn Phe Ala Ser Glu Ser Trp Leu Lys Asn 2490 2485 Ala Trp His Phe Ile Ser Glu Ser Val Ser Val Lys Glu Asp Gln Glu 2500 2505 Glu Thr Lys Pro Thr Phe Asp Ile Val Val Asp Thr Leu Lys Asp Trp 2515 2520 2525 Ala Leu Leu Pro Gly Thr Lys Phe Thr Val Ser Ala Asn Gln Leu Val 2535 2540 Val Pro Glu Gly Asp Val Leu Leu Pro Leu Ser Leu Met His Ile Ala 2550 2555 Val Phe Pro Asn Ala Gln Ser Asp Lys Val Phe His Ala Leu Met Lys 2565 2570 Ala Gly Cys Ile Gln Leu Ala Leu Asn Lys Ile Cys Ser Lys Asp Ser 2580 2585 2590 Ala Phe Val Pro Leu Leu Ser Cys His Thr Ala Asn Ile Glu Ser Pro 2605 2600 Thr Ser Ile Leu Lys Ala Leu His Tyr Met Val Gln Thr Ser Thr Phe 2615 2620 Arg Ala Glu Lys Leu Val Glu Asn Asp Phe Glu Ala Leu Leu Met Tyr 2625 2630 2635 Phe Asn Cys Asn Leu Asn His Leu Met Ser Gln Asp Asp Ile Lys Ile 2645 2650

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Leu Lys Ser Leu Pro 2660		2665	2670	
Ile Gly Lys Phe Gly 2675	Thr Cys Tyr 2680		s Ser Ile Pro S 2685	Ser
Ala Glu Val Glu Lys 2690	Trp Thr Gln 2695		r Ala Phe Leu (	3lu
Glu Lys Ile His Let 2705	Lys Glu Leu 2710	Tyr Glu Val II 2715		Pro 2720
Val Asp Asp Leu Glu 272		Lys His Leu Le 2730	u Pro Lys Ile ( 2735	3lu
Asn Leu Ser Tyr Asp 2740	Ala Lys Leu	Glu His Leu Il 2745	e Tyr Leu Lys A 2750	Asn
Arg Leu Ser Ser Ala 2755	Glu Glu Leu 2760		s Glu Gln Leu I 2765	Phe
Glu Lys Leu Glu Sen 2770	2775	27	80	
Lys Gln Ala Lys His 2785	Phe Tyr Asp 2790	Arg Thr Val Ar 2795		/al 2800
Met Leu Pro Glu Lys 280	5	2810	2815	
Glu Gln Leu Ile Lys 2820	Pro Lys Asn	His Val Thr Ph 2825	e Met Thr Ser 7 2830	rp
Val Glu Phe Leu Aro	Asn Ile Gly 2840		e Leu Ser Gln ( 2845	3ln
Gln Leu Leu Gln Phe 2850	Ala Lys Glu 2855		g Ala Asn Thr ( 60	Glu
Asn Trp Ser Lys Glu 2865	Thr Leu Gln 2870	Asn Thr Val As 2875	_	His 2880
His Ile Phe Gln Glu 288		Leu Leu Ser Gl 2890	y Asn Phe Leu I 2895	Lys
Glu Leu Ser Leu Ile 2900	Pro Phe Leu	Cys Pro Glu Ar 2905	g Ala Pro Ala ( 2910	Glu
Phe Ile Arg Phe His	Pro Gln Tyr 2920		n Gly Thr Leu E 2925	Pro
Leu Ile Lys Phe Ass 2930	Gly Ala Gln 2935		s Phe Lys Gln ( 40	Cys
Asp Val Leu Gln Leu	Leu Trp Thr 2950	Ser Cys Pro Il 2955		Lys 2960
Ala Thr Pro Leu Ser	lle Lys Glu			
Gln Glu Gln Leu Glu 2980	Gln Val Leu	Asn Met Leu As 2985	n Val Asn Leu A 2990	Asp
Pro Pro Leu Asp Lys 2995	Val Ile Asn 3000	Asn Cys Arg As		Ile
Thr Thr Leu Asp Glu 3010		Lys Thr Arg Al	a Lys Val Leu <i>F</i> 20	Arg
Ser Ile Tyr Glu Phe 3025	Leu Ser Ala 3030	Glu Lys Arg Gl 3035		31n 3040
Leu Arg Gly Val Ala	Phe Val Met			
Lys Pro Glu Glu Val				Jys
Pro Tyr Leu Tyr Lys 3075	Leu Pro Leu 3080	Glu Leu Gly Th		Leu
Phe Lys His Leu Gly			r Lys Gln Tyr V	/al
3030	3095	31	00	
Glu Val Leu Ser Arg	3095		y Lys Gln Leu A	Asp 3120

Ser	Asn	~ 7													
		GIU	Met	Arg 3125		Val	Lys	Arg	Val 3130		Ser	Gly	Leu	Phe 3135	
	Leu	Gln		Asp		Val	Lys		Arg		Asp	Leu	Glu 3150	Asn	
			3140					3145			_				
Arg	Asp	Leu 3155		Leu	Tyr	Leu	Pro 3160		Gln	Asp	Gly	Arg 3165		Val	Lys
Ser	Ser 3170	Ile		Val	Phe	Asp 3175	Asp		Pro	His	Tyr 3180	_	Ser	Arg	Ile
Gln	Glv	Δcn	Tle	Glv	Val	Gln	Met	Len	Val	Asn	Len	Ser	Gln	Cys	Tyr
	_	ADII	110	O <sub>T</sub>	3190		1100	LCu	• • • •	3195		001	0111	CID	3200
3185		_	_	•			•	_,	_				_	_,	
	-	-	_	3205	5				3210	)				Phe 3215	5
Gln	Lys	Leu	Arg 3220		Arg	Leu	Leu	Ser 3225		Ile	Leu	Glu	Glu 3230	Gln	Leu
7	<b>a</b> 1	a1			T	1707	C			<b>a</b> 1	77.	T 011			T 011
_		3235	5		_		3240	)				3245	5	Ser	
Gln	Gly	Arq	Leu	Gln	Leu	Leu	Leu	Ser	Ser	Glu	Gln	Phe	Ile	Thr	Gly
	3250					3255					3260				_
Lou			TIA	Mot	Laze			λan	λen	λen			T.e.11	Ala	λen
		Arg	116	Mec	_		Gru	A311	чэБ			1110	цси	AIU	
3265			_	_	3270				_	3275				_	3280
Glu	Glu	Lys	Ala	Ile 3285		Leu	Cys	Lys	Ala 3290		Arg	Glu	Gly	Leu 3295	
Val	Ser	Cys			Lys	Leu	Gln			Leu	Arg	Val	Lys 3310	Gly	Phe
_	_		3300		_	_	_	3305		_,		-1			_
Asn	Pro	11e 3315		His	Ser	Arg	Ser 3320		Thr	Phe	Ala	Phe 3325		Lys	Arg
Phe	Glv	Asn	Δla	Val	Tle	Len	Leu	Tvr	Tle	Gln	His	Ser	Asp	Ser	Lvs
1110	3330		riiu	val		3335		-1-	110	0111	3340			501	2,0
3			Db -	T	T			7.7 -	Mob	mla aa			Com	77.	mb
	тте	ASI	Pne	ьeu	Leu	Ala	ьeu	ATa	мес	THE	ьeu	гуя	ser	Ala	THE
_															
3345					3350					3355					3360
3345		Leu	Ile		Asp		Ser	Tyr		Ile		Met	Leu	Gly	3360 Cys
3345 Asp	Asn			3365	Asp	Thr			3370	Ile )	Ala			Gly 3375	3360 Cys
3345 Asp	Asn		Tyr	3365 Arg	Asp	Thr		Lys	3370 Leu	Ile )	Ala		Gly	Gly 3375 Val	3360 Cys
3345 Asp Asn	Asn Asp	Ile	Tyr 3380	3365 Arg )	Asp Ile	Thr Gly	Glu	Lys 3385	3370 Leu 5	Ile ) Asp	Ala Ser	Leu	Gly 3390	Gly 3375 Val	3360 Cys Lys
3345 Asp Asn	Asn Asp	Ile Ser	Tyr 3380 Ser	3365 Arg )	Asp Ile	Thr Gly	Glu Lys	Lys 3385 Leu	3370 Leu 5	Ile ) Asp	Ala Ser	Leu Met	Gly 3390 Pro	Gly 3375 Val	3360 Cys Lys
3345 Asp Asn Tyr	Asn Asp Asp	Ile Ser 3395	Tyr 3380 Ser	3365 Arg ) Glu	Asp Ile Pro	Thr Gly Ser	Glu Lys 3400	Lys 3385 Leu	3370 Leu Glu	Ile ) Asp Leu	Ala Ser Pro	Leu Met 3405	Gly 3390 Pro	Gly 3375 Val ) Gly	3360 Cys Lys Thr
3345 Asp Asn Tyr	Asn Asp Asp Ile	Ile Ser 3395 Pro	Tyr 3380 Ser	3365 Arg ) Glu	Asp Ile Pro	Thr Gly Ser His	Glu Lys 3400 Tyr	Lys 3385 Leu	3370 Leu Glu	Ile ) Asp Leu	Ala Ser Pro Met	Leu Met 3405 Asp	Gly 3390 Pro	Gly 3375 Val	3360 Cys Lys Thr
3345 Asp Asn Tyr Pro	Asn Asp Asp Ile 3410	Ile Ser 3395 Pro	Tyr 3380 Ser Ala	3365 Arg Glu Glu	Asp Ile Pro	Thr Gly Ser His 3415	Glu Lys 3400 Tyr	Lys 3385 Leu Thr	3370 Leu Glu Leu	Ile ) Asp Leu Leu	Ala Ser Pro Met 3420	Leu Met 3405 Asp	Gly 3390 Pro Pro	Gly 3375 Val ) Gly Met	3360 Cys Lys Thr
3345 Asp Asn Tyr Pro	Asn Asp Asp Ile 3410	Ile Ser 3395 Pro	Tyr 3380 Ser Ala	3365 Arg Glu Glu	Asp Ile Pro Ile Glu	Thr Gly Ser His 3415 Tyr	Glu Lys 3400 Tyr	Lys 3385 Leu Thr	3370 Leu Glu Leu	Ile ) Asp Leu Leu	Ala Ser Pro Met 3420	Leu Met 3405 Asp	Gly 3390 Pro Pro	Gly 3375 Val ) Gly Met	3360 Cys Lys Thr Asn
Asp Asp Asn Tyr Pro Val 3425	Asp Asp Asp Ile 3410 Phe	Ile Ser 3395 Pro Tyr	Tyr 3380 Ser Ala Pro	3365 Arg Glu Glu Gly	Asp Ile Pro Ile Glu 3430	Thr Gly Ser His 3415 Tyr	Glu Lys 3400 Tyr Val	Lys 3385 Leu Thr	3370 Leu Glu Leu Tyr	Ile Asp Leu Leu Leu 3435	Ala Ser Pro Met 3420 Val	Leu Met 3405 Asp ) Asp	Gly 3390 Pro Pro	Gly 3375 Val ) Gly Met	3360 Cys Lys Thr Asn Gly 3440
Asp Asp Asn Tyr Pro Val 3425	Asp Asp Asp Ile 3410 Phe	Ile Ser 3395 Pro Tyr	Tyr 3380 Ser Ala Pro	3365 Arg Glu Glu Gly	Asp Ile Pro Ile Glu 3430	Thr Gly Ser His 3415 Tyr	Glu Lys 3400 Tyr Val	Lys 3385 Leu Thr	3370 Leu Glu Leu Tyr	Ile Asp Leu Leu Leu 3435	Ala Ser Pro Met 3420 Val	Leu Met 3405 Asp ) Asp	Gly 3390 Pro Pro	Gly 3375 Val ) Gly Met	3360 Cys Lys Thr Asn Gly 3440
Asp Asp Asn Tyr Pro Val 3425	Asp Asp Asp Ile 3410 Phe	Ile Ser 3395 Pro Tyr	Tyr 3380 Ser Ala Pro	3365 Arg Glu Glu Gly Gly	Asp Ile Pro Ile Glu 3430 Ser	Thr Gly Ser His 3415 Tyr	Glu Lys 3400 Tyr Val	Lys 3385 Leu Thr	3370 Leu Glu Leu Tyr	Ile Asp Leu Leu Leu 3435	Ala Ser Pro Met 3420 Val	Leu Met 3405 Asp ) Asp	Gly 3390 Pro Pro	Gly 3375 Val ) Gly Met Glu	3360 Cys Lys Thr Asn Gly 3440 Ile
Asn Tyr Pro Val 3425 Gly	Asp Asp Ile 3410 Phe Asp	Ile Ser 3395 Pro Tyr	Tyr 3380 Ser Ala Pro	3365 Arg Glu Glu Gly Gly 3445	Asp Ile Pro Ile Glu 3430 Ser	Thr Gly Ser His 3415 Tyr Tyr	Glu Lys 3400 Tyr Val Gln	Lys 3385 Leu Thr Gly	3370 Leu Glu Leu Tyr Thr 3450	Ile Asp Leu Leu Leu 3435	Ala Ser Pro Met 3420 Val Thr	Leu Met 3405 Asp Asp Tyr	Gly 3390 Pro Pro Ala	Gly 3375 Val Gly Met Glu Ile 3455	3360 Cys Lys Thr Asn Gly 3440 Ile
Asn Tyr Pro Val 3425 Gly	Asp Asp Ile 3410 Phe Asp	Ile Ser 3395 Pro Tyr	Tyr 3380 Ser Ala Pro Tyr	3365 Arg Glu Glu Gly Gly 3445 Glu	Asp Ile Pro Ile Glu 3430 Ser	Thr Gly Ser His 3415 Tyr Tyr	Glu Lys 3400 Tyr Val Gln	Lys 3385 Leu Thr Gly Pro	3370 Leu Glu Leu Tyr Thr 3450 Asp	Ile Asp Leu Leu Leu 3435	Ala Ser Pro Met 3420 Val Thr	Leu Met 3405 Asp Asp Tyr	Gly 3390 Pro Pro Ala Ala	Gly 3375 Val Gly Met Glu Ile 3455 Leu	3360 Cys Lys Thr Asn Gly 3440 Ile
Asn Tyr Pro Val 3425 Gly Val	Asp Asp Ile 3410 Phe Asp Gln	Ser 3395 Pro Tyr Ile	Tyr 3380 Ser Ala Pro Tyr Val 3460	Glu Gly Gly Gly Gly	Asp Ile Pro Ile Glu 3430 Ser Arg	Thr Gly Ser His 3415 Tyr Tyr Glu	Lys 3400 Tyr Val Gln	Lys 3385 Leu Thr Gly Pro Ala 3465	3370 Leu Glu Leu Tyr Thr 3450 Asp	Ile Asp Leu Leu Leu 3435 Tyr Asn	Ala Ser Pro Met 3420 Val Thr	Leu Met 3405 Asp Asp Tyr	Gly 3390 Pro Pro Ala Ala Phe 3470	Gly 3375 Val ) Gly Met Glu Ile 3455 Leu	3360 Cys Lys Thr Asn Gly 3440 Ile
Asn Tyr Pro Val 3425 Gly Val	Asp Asp Ile 3410 Phe Asp Gln	Ser 3395 Pro Tyr Ile	Tyr 3380 Ser Ala Pro Tyr Val 3460 Gln	Glu Gly Gly Gly Gly	Asp Ile Pro Ile Glu 3430 Ser Arg	Thr Gly Ser His 3415 Tyr Tyr Glu	Lys 3400 Tyr Val Gln	Lys 3385 Leu Thr Gly Pro Ala 3465 Tyr	3370 Leu Glu Leu Tyr Thr 3450 Asp	Ile Asp Leu Leu Leu 3435 Tyr Asn	Ala Ser Pro Met 3420 Val Thr	Leu Met 3405 Asp Asp Tyr	Gly 3390 Pro Pro Ala Ala Phe 3470 Ile	Gly 3375 Val Gly Met Glu Ile 3455 Leu	3360 Cys Lys Thr Asn Gly 3440 Ile
Asn Tyr Pro Val 3425 Gly Val Lys	Asn Asp Ile 3410 Phe Asp Gln Ile	Ile Ser 3395 Pro Tyr Ile Glu Tyr 3475	Tyr 3380 Ser Ala Pro Tyr Val 3460 Gln	3365 Arg Glu Glu Gly 3445 Glu	Asp Ile Pro Ile Glu 3430 Ser Arg	Thr Gly Ser His 3415 Tyr Tyr Glu Ile	Glu Lys 3400 Tyr Val Gln Asp Gly 3480	Lys 3385 Leu Thr Gly Pro Ala 3465	3370 Leu Glu Leu Tyr Thr 3450 Asp	Ile Asp Leu Leu S435 Tyr Asn Glu	Ala Ser Pro Met 3420 Val Thr Ser	Leu Met 3405 Asp Asp Tyr Ser Lys 3485	Gly 3390 Pro Pro Ala Ala Phe 3470 Ile	Gly 3375 Val Gly Met Glu Ile 3455 Leu Val	3360 Cys Lys Thr Asn Gly 3440 Ile Gly Ser
Asn Tyr Pro Val 3425 Gly Val Lys	Asn Asp Ile 3410 Phe Asp Gln Ile Leu	Ser 3395 Pro Tyr Ile Glu Tyr 3475 Asp	Tyr 3380 Ser Ala Pro Tyr Val 3460 Gln	3365 Arg Glu Glu Gly 3445 Glu	Asp Ile Pro Ile Glu 3430 Ser Arg	Thr Gly Ser His 3415 Tyr Tyr Glu Ile Phe	Glu Lys 3400 Tyr Val Gln Asp Gly 3480 Ser	Lys 3385 Leu Thr Gly Pro Ala 3465	3370 Leu Glu Leu Tyr Thr 3450 Asp	Ile Asp Leu Leu S435 Tyr Asn Glu	Ala Ser Pro Met 3420 Val Thr Ser Tyr	Met 3405 Asp Asp Tyr Ser Lys 3485 Ser	Gly 3390 Pro Pro Ala Ala Phe 3470 Ile	Gly 3375 Val ) Gly Met Glu Ile 3455 Leu	3360 Cys Lys Thr Asn Gly 3440 Ile Gly Ser
Asp Asp Asn Tyr Pro Val 3425 Gly Val Lys Ser	Asn Asp Ile 3410 Phe Asp Gln Ile Leu 3490	Ser 3395 Pro Tyr Ile Glu Tyr 3475 Asp	Tyr 3380 Ser Ala Pro Tyr Val 3460 Gln	Glu Gly Gly Gly Glu Ile	Asp Ile Pro Ile Glu 3430 Ser Arg Asp	Thr Gly Ser His 3415 Tyr Tyr Glu Ile Phe 3495	Glu Lys 3400 Tyr Val Gln Asp Gly 3480 Ser	Lys 3385 Leu Thr Gly Pro Ala 3465 Tyr	3370 Leu Glu Leu Tyr Thr 3450 Asp Ser	Ile Asp Leu Leu S435 Tyr Asn Glu Glu	Ala Ser Pro Met 3420 Val Thr Ser Tyr Glu 3500	Leu  Met 3405 Asp  Asp  Tyr  Ser  Lys 3485 Ser	Gly 3390 Pro Pro Ala Ala Phe 3470 Ile	Gly 3375 Val ) Gly Met Glu Ile 3455 Leu ) Val	3360 Cys Lys Thr Asn Gly 3440 Ile Gly Ser
Asp Asp Asn Tyr Pro Val 3425 Gly Val Lys Ser	Asn Asp Ile 3410 Phe Asp Gln Ile Leu 3490	Ser 3395 Pro Tyr Ile Glu Tyr 3475 Asp	Tyr 3380 Ser Ala Pro Tyr Val 3460 Gln	Glu Gly Gly Gly Glu Ile	Asp Ile Pro Ile Glu 3430 Ser Arg Asp	Thr Gly Ser His 3415 Tyr Tyr Glu Ile Phe 3495	Glu Lys 3400 Tyr Val Gln Asp Gly 3480 Ser	Lys 3385 Leu Thr Gly Pro Ala 3465 Tyr	3370 Leu Glu Leu Tyr Thr 3450 Asp Ser	Ile Asp Leu Leu S435 Tyr Asn Glu Glu	Ala Ser Pro Met 3420 Val Thr Ser Tyr Glu 3500	Leu  Met 3405 Asp  Asp  Tyr  Ser  Lys 3485 Ser	Gly 3390 Pro Pro Ala Ala Phe 3470 Ile	Gly 3375 Val Gly Met Glu Ile 3455 Leu Val	3360 Cys Lys Thr Asn Gly 3440 Ile Gly Ser Ser
Asp Asp Asn Tyr Pro Val 3425 Gly Val Lys Ser	Asn Asp Ile 3410 Phe Asp Gln Ile Leu 3490 Asp	Ser 3395 Pro Tyr Ile Glu Tyr 3475 Asp	Tyr 3380 Ser Ala Pro Tyr Val 3460 Gln	Glu Gly Gly Gly Glu Ile	Asp Ile Pro Ile Glu 3430 Ser Arg Asp	Thr Gly Ser His 3415 Tyr Glu Ile Phe 3495 Thr	Glu Lys 3400 Tyr Val Gln Asp Gly 3480 Ser	Lys 3385 Leu Thr Gly Pro Ala 3465 Tyr	3370 Leu Glu Leu Tyr Thr 3450 Asp Ser	Ile Asp Leu Leu S435 Tyr Asn Glu Glu	Ala Ser Pro Met 3420 Val Thr Ser Tyr Glu 3500 Thr	Leu  Met 3405 Asp  Asp  Tyr  Ser  Lys 3485 Ser	Gly 3390 Pro Pro Ala Ala Phe 3470 Ile	Gly 3375 Val ) Gly Met Glu Ile 3455 Leu ) Val	3360 Cys Lys Thr Asn Gly 3440 Ile Gly Ser
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Asp Asp Asp Asn Tyr Pro Val 3425 Gly Val Lys Ser Arg 3505 Pro	Asn Asp Ile 3410 Phe Asp Gln Ile Leu 3490 Asp Gly Thr	Ser 3395 Pro Tyr Ile Glu Tyr 3475 Asp Ser Leu Ser	Tyr 3380 Ser Ala Pro Tyr Val 3460 Gln Leu Ala Arg Ser 3540	Glu Gly Gly Gly Glu Ile Tyr Pro Ser 3525 Lys	Asp Ile Pro Ile Glu 3430 Ser Arg Asp Lys Ser 3510 Ile His	Thr Gly Ser His 3415 Tyr Glu Ile Phe 3495 Thr Pro Gln	Glu Lys 3400 Tyr Val Gln Asp Gly 3480 Ser Pro Pro	Lys 3385 Leu Thr Gly Pro Ala 3465 Tyr Arg Thr Leu Pro 3545	January Color Colo	Leu Leu Leu Asp Leu Asa Tyr Asn Glu Pro 3515 Ser Lys	Ala Ser Pro Met 3420 Val Thr Ser Tyr Glu 3500 Thr Gly Leu	Leu  Met 3405 Asp Asp Tyr Ser Lys 3485 Ser Glu Arg Lys	Gly 3390 Pro Pro Ala Ala Phe 3470 Ile Ser Phe Glu Val 3550	Gly 3375 Val Gly Met Glu Ile 3455 Leu Val Gln Leu Ser 3535 Asn	3360 Cys Lys Thr Asn Gly 3440 Ile Gly Ser Thr 3520 His
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Lys Trp His Pro Asp Lys Asn Pro Glu Asn His Asp Ile Ala Asn Glu 3595 3590 Val Phe Lys His Leu Gln Asn Glu Ile Asn Arg Leu Glu Lys Gln Ala 3610 3605 Phe Leu Asp Gln Asn Ala Asp Arg Ala Ser Arg Arg Thr Phe Ser Thr 3625 3630 3620 Ser Ala Ser Arg Phe Gln Ser Asp Lys Tyr Ser Phe Gln Arg Phe Tyr 3645 3640 3635 Thr Ser Trp Asn Gln Glu Ala Thr Ser His Lys Ser Glu Arg Gln Gln 3655 3660 Gln Asn Lys Glu Lys Cys Pro Pro Ser Ala Gly Gln Thr Tyr Ser Gln 3670 3675 Arg Phe Phe Val Pro Pro Thr Phe Lys Ser Val Gly Asn Pro Val Glu 3685 3690 Ala Arg Arg Trp Leu Arg Gln Ala Arg Ala Asn Phe Ser Ala Ala Arg 3705 3710 3700 Asn Asp Leu His Lys Asn Ala Asn Glu Trp Val Cys Phe Lys Cys Tyr 3715 3720 3725 Leu Ser Thr Lys Leu Ala Leu Ile Ala Ala Asp Tyr Ala Val Arg Gly 3735 3740 Lys Ser Asp Lys Asp Val Lys Pro Thr Ala Leu Ala Gln Lys Ile Glu 3750 3755 Glu Tyr Ser Gln Gln Leu Glu Gly Leu Thr Asn Asp Val His Thr Leu 3770 3775 3765 Glu Ala Tyr Gly Val Asp Ser Leu Lys Thr Arg Tyr Pro Asp Leu Leu 3780 3785 3790 Pro Phe Pro Gln Ile Pro Asn Asp Arg Phe Thr Ser Glu Val Ala Met 3800 3805 Arg Val Met Glu Cys Thr Ala Cys Ile Ile Ile Lys Leu Glu Asn Phe 3815 3820 3810 Met Gln Gln Lys Val 3825

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<213> Mus musculus

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Ile 465	Phe	Thr	Lys	Pro	Thr 470	Ile	Asn	Ala	Val	Leu 475	Lys	His	Phe	Lys	Thr 480
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Gln	Phe	Gln	His 500		Leu	Leu	Glu	Ile 505		Gly	Phe	Met	His 510		His
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Trp	Thr 530		Lys	Asn	Phe	Cys 535		Leu	Ala	Gln	Ala 540	Val	Ile	Lys	Pro
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пеп	vaı	птэ	Asp	1205		Ser	Val	116	1210	_	GIY	FIIC	TYL	1215	
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Ile 182		Asp	Asp	Lys	Trp 1830		Pro	Leu	Gln	Gly 1839		Ala	Leu	Cys	Val 1840
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Glu Val			3605	5				3610	)				3615	5
Ala Phe	Leu	3620	)			_	3625	5				3630	)	
Thr Ser					~ 7	COY	7 cm	LAZO	ጥህጕ	Ser	Dhe	Cln	7 ~~~	Dhe
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Ala 102	_	Leu	Gln	Ser	Pro 1030		Phe	Arg	Gly	Pro 103		Asp	Asp	Pro	Ala 1040
Ala	Leu	Phe	Glu	Met 104		Lys	Ser	Gly	Gln 1050		Lys	Lys	Pro	Ser 1055	
Glu	Leu	Ser	Gln 1060	_	Thr	Val	Glu	Cys 1065		Thr	Trp	Leu	Leu 1070	Cys )	Thr
Cys	Met	Asp 1075		Gly	Glu	Ala	Leu 1080	_	Phe	Ser	Leu	Ser 108		Ser	Gly
Arg	Arg 1090	Leu		Leu	Val	Pro 1099		Gly	Ala	Val	Gly 1100		Gln	Leu	Ser
Glu 110		Gln	Asp	Gln	Lys 1110		Thr	Val	Lys	Pro 1115		Ile	Gly	Glu	Val 1120
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Asn	Gly	Cys	Phe 1140	Ala		Thr	Ser	Asn 1149	Arg		Glu	Ile	Trp	Lys	
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Lys	Ala 1170	Tyr		Gln	Val	Leu 1179	Ser		Leu	Arg	Asp	Leu		Thr	Ser
Gly 1185	Glu		Met	Asp	Tyr 1190	Thr		Tyr	Ala	Val 1199	Trp		Asp	Pro	Asp 1200

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OIN IIC IM OIG	Glu Asn Ph	e Gln Leu	Cvs Ara Ara	Ile Ile Ser Glu
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Lys Leu Gly Ala 1745	Val Pro Ly 1750	s Arg His	Lys Ala Leu 1755	Glu Arg Tyr Ala 1760
		_		Gly Gln Lys Glu 1775
Lys Leu Thr Ser 178	Arg Ile Ly		Leu Asn Ala	Tyr Pro Ser Glu 1790
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	Phe Val Ph	e Asp Pro	Arg Gln His 182	Pro Val Asp Arg
Ile Phe Asp Asp	Lys Trp Al		_	Ala Leu Cys Val
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-	1845	_	1850	1855
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Ile Ser Gly Asn 1890	Asp Ile Le 18	_	Phe Asp Pro 190	His Ala Arg Tyr 0
Ala Pro Gly Ala 1905	Thr Ser Il 1910	e Ser Pro	Gly Arg Met 1915	Phe Arg Asp Leu 1920
		n Phe Ser		Asp Leu Tyr Leu
App Ara App ruc	1005		1930	1025
	1925			1935
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<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

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His 465	Gly	Phe	Gly	Leu	Ala 470	Lys	Ser	Phe	Val	His 475	Leu	Pro	Arg	Leu	Leu 480
Asn	Gln	Ser	Met	Ile 485	Leu	Thr	Phe	Ser	Leu 490	Ile	Cys	Ile	Met	Tyr 495	Leu
Lys	Pro	Trp	Gln 500	Asn	Ser	Thr	Asn	Tyr 505	Leu	Arg	Ser	Val	Val 510	Gln	Arg
Ser	His	Gln 515	Ile	Ile	Phe	Pro	Trp 520	Leu	Phe	Arg	Arg	Tyr 525	Ile	Ser	Lys
	530	_				535					540	Ile			
545					550					555		Gln			560
				565					570			Leu		575	
			580					585			-	Leu	590		
		595		-			600					Trp 605			
	610					615		_			620	Leu			
11e 625	Leu	Lys	Thr	Trp	Asp 630	Leu	ser	Ser	GIn	Asp 635	Lys	Glu	ser	HIS	Leu 640
				645					650			Cys		655	
	-		660		-			665				Gln	670		
		675					680			_		Ser 685			-
_	690				_	695		_	_		700	Thr			
705					710			_		715		Lys	_		720
		-		725					730			Leu	_	735	
			740					745			_	Ser	750		
IIe	IIe	5er 755	vaı	Asn	Thr	ьеu	ьуs 760	Thr	Asn	Pro	me	Leu 765	GIY	ser	гÀг
	770					775					780	Phe			
Ser 785	Asn	His	Leu	Met	Tyr 790	Leu	Ala	Val	Ser	Tyr 795	Leu	Leu	Lys	His	Leu 800
				805					810			Glu		815	
Lys	Gln	Lys	Val 820	Lys	Leu	Val	Val	Arg 825	Ala	Thr	Ile	Gln	Gln 830	Ile	Phe
		835	-				840					Gly 845			
Ser	Leu 850	Arg	Val	Ser	Gln	Cys 855	Ile	Ser	Thr	Lys	Leu 860	Arg	Lys	Pro	Thr
Pro 865	Val	His	Lys	Ile	Gln 870	Leu	Lys	Lys	Asn	Pro 875	Ala	Leu	Pro	Lys	His 880
Thr	His	Leu	Ser	Val 885	Phe	Lys	Arg	Leu	Leu 890	Ser	Ser	Arg	Leu	Ala 895	Ala
Ala	Val	Ile	Lys 900	Ser	Phe	Pro	Val	Met 905	Asn	Gln	Ser	His	Leu 910	Ala	Phe
Phe	Arg	Ser 915	Gln	Trp	Lys	Asn	Phe 920	Thr	Met	Cys	Ser	Glu 925	Gly	Leu	Leu

	930		_		Phe	935					940				
Ser 945	Leu	Lys	Trp	Leu	Ser 950	Leu	Ala	Asn	Gln	Lys 955	Ser	His	Gln	Met	Ser 960
Cys	His	Arg	Lys	Gln 965	Ser	Val	Pro	Arg	Gly 970	Phe	Cys	Val	Leu	Ala 975	Trp
Thr	Gln	Glu	Arg 980	Leu	Ser	Phe	Pro	Val 985	Arg	Val	Glu	Glu	Asp 990	Asp	Trp
Phe	His	Val 995	Gly	Gln	Glu	Phe	Ser 1000	_	Gln	Lys	Ser	Arg 1009		Arg	Ser
Gly	Gln 1010		His	Thr	Leu	Glu 1015	_	Cys	Phe	Ala	Ile 1020	_	Leu	Tyr	Glu
Lys 1025		Ala	Cys	Gln	Phe 1030		Ser	Met	Gly	Ala 1035		Leu	Leu	His	Gln 1040
Ile	Gly	Lys	Lys	Ser 1045	Gly	Lys	Gln	Ile	Gln 1050	_	Asp	Àsp	Gly	Ile 1055	
Arg	Ser	Asp	Met 1060		Leu	Lys	Leu	Thr 1065		Arg	Tyr	Val	Ser 1070		Gly
Thr	Trp	Pro 1079		Val	Gly	Ser	Trp 1080		Ile	Leu	Thr	Met 1089		Tyr	Gly
Pro	Ile 1090		Ile	Phe	Met	Met 1099		Phe	Leu	Phe	Ala 1100	•	Asp	Phe	Met
Lys 1105					1110	)	_			1115	5				1120
Leu	Leu	Gly	Phe	Pro 1125		Thr	Asp	Phe	Met 1130		Leu	Tyr	Leu	Lys 1135	
Glu	Met	Leu	Val 1140		Gln	Pro	Ser	Arg 1145		Phe	Asn	Thr	Ser 1150		Arg
Leu	Gly	Pro 1155	_	Thr	Phe	Val	Leu 1160		Asn	Phe	Leu	Leu 1165	_	Asn	Asp
Leu	Lys 1170	_	Leu	Ala	Ala	Asn 1175	_	Tyr	Tyr	Leu	Lys 1180		His	Phe	Gln
Arg 1185					1190	)	_			1195	5			_	1200
Lys				1205	5				1210	)				1215	5
Ser	_		1220	)				1225	5				1230	)	_
Gly		1235	5				1240	)				1245	5		
	1250	)				1255	5				1260	)			
Arg 1265					1270	)				1275	5				1280
Met			_	1285	5		_		1290	)	_			1295	5
Ile	-		1300	)				1305	5				1310	)	
Ser		1315	5	_	_		1320	)		-		1325	5		
	1330	)				1335	5				1340	)			
Trp 1345		_	_		1350	)				1355	5				1360
Leu				1365	5				1370	)				1375	<b>;</b>
Phe	Mot	Laze	Tle	Pro	Tle	Leu	Len	Glu	Val	Val	Val	Gln	Cvs	Hie	Trn

Leu	Leu	Lys 1399		Phe	Trp	Asp	Tyr 1400		Arg	Ser	Gln	Gln 1405		Ile	Trp
Leu	Thr 1410	Asn		Lys	Gln	Asn 1415	Gln		Met	Met	Glu 1420	Leu		Cys	Thr
Arg 142	Arg		Ser	Pro	Met 1430	Leu		Thr	Asn	Thr 1435	Phe	Met	Lys	Pro	Cys 1440
		Lys	Ser	Leu 1449	_	Cys	Gln	Leu	Leu 1450		Ser	Asn	Pro	Leu 1455	
Ser	Phe	Leu	Arg 1460		His	Met	Leu	Thr 1469		Lys	Arg	Phe	Leu 1470		Ile
		1479	5				1480	)		_		Ile 1485	5		
	1490	)				1495	5				1500				
150	5				1510	)				1515	5	Lys			1520
				1525	5				1530	)		Glu		1535	5
			1540	)				1545	5			Phe	1550	)	
		155	5				1560	)				Cys 1565	5		
	1570	)	_			1575	5				1580				
158	5				1590	)				1595	5	Glu			1600
	_		_	1609	5	_			1610	)		Val		1615	5
			1620	)				1629	5			Glu	1630	)	
		1639	5				1640	)				Ser 1645	5		
	1650	)				1655	5				1660				
166	5				1670	)				1675	5	Gly			1680
				1685	5				1690	)		Leu		1695	5
			1700	)				1709	5			Lys	1710	)	
		1715	5				1720	)				Cys 1725	5		
	1730	)				1735	5				1740				
174		Mec	PIO	Asp			GIII	GIA	PLO	HIS		Leu	Val	PIO	1760
Ala					1750				_	1755		_	_		
	Cys			1769	Trp	Met			1770	Gly )	His	Ser		1775	Met
	Cys Trp	Ile	Phe 1780	1765 Ile )	Trp Trp	Met Glu	Pro	Ile 1785	1770 Leu 5	Gly ) Asn	His Trp	Ile	Ile 1790	1775 Ala )	Met Gln
Cys	Cys Trp Ser	Ile Asp 1799	Phe 1780 Phe	1765 Ile ) Leu	Trp Trp Phe	Met Glu Val	Pro Met 1800	Ile 1789 Gln	1770 Leu Lys	Gly ) Asn Trp	His Trp Gln	Ile Lys 1805	Ile 1790 Phe	1775 Ala ) Arg	Met Gln Lys
Cys Phe	Cys Trp Ser Arg	Ile Asp 1799 Leu	Phe 1780 Phe Phe	1769 Ile ) Leu Gln	Trp Trp Phe	Met Glu Val Gln 1815	Pro Met 1800 Thr	Ile 1789 Gln ) Glu	1770 Leu Lys Trp	Gly ) Asn Trp Ser	His Trp Gln Arg 1820	Ile Lys 1805 Ile	Ile 1790 Phe Phe	1775 Ala ) Arg Trp	Met Gln Lys Thr
Cys Phe Asn 1829	Cys Trp Ser Arg 1810 Cys	Ile Asp 1799 Leu ) Ala	Phe 1780 Phe Phe Gln	1769 Ile Leu Gln Met	Trp Trp Phe His Gly 1830	Met Glu Val Gln 1815 Gln	Pro Met 1800 Thr Asn	Ile 1785 Gln ) Glu Phe	1770 Leu Lys Trp Cys	Gly Asn Trp Ser Phe 1835	His Trp Gln Arg 1820 Leu	Ile Lys 1805 Ile	Ile 1790 Phe Phe Thr	1775 Ala ) Arg Trp	Met Gln Lys Thr Lys 1840

Gln	Arg	Ala	Lys 1860		Gln	Met	Glu	Thr 1865		Lys	Gly	Asn	Asn 1870		Met
His	Leu	Leu 1875		Val	Leu	Leu	Lys 1880		Gly	Ser	Ser	Lys 1885		Tyr	Gln
Phe	Asn 1890	_	Pro	Ile	Leu	Trp 1895		Leu	Arg	Thr	Leu 1900		Glu	Ile	Leu
Leu 190	-	Gly	Phe	Val	Ile 1910		Gln	Ala	Phe	Gln 1915		Trp	Arg	Lys	Tyr 1920
Leu	Lys	Val	Ser	Tyr 1925	Gln	Leu	Thr	Arg	Thr 1930		Ile	Leu	Leu	Phe 1935	
His	Val	Val	Glu 1940		Pro	Ala	Leu	Leu 1945		Thr	Ile	Lys	Asn 1950		Ile
Gly	Pro	Ser 195		Phe	Cys	Leu	Phe 1960		Trp	Arg	Leu	Gly 1965	_	His	Phe
Met	Met 1970		Thr	Leu	His	Trp 1975		Gln	Pro	Glu	Gly 1980		Cys	Gly	Val
Met 198		Met	Glu	Leu	Val 1990		Glu	Val	Thr	Gly 1995		Thr	Val	Gln	His 2000
Leu	Leu	His	Met	Leu 2005	Asn	Cys	Tyr	Ser	Lys 2010		Gly	Ile	Ser	Leu 2015	
Leu	Ile	Gln	His 2020		Gln	Cys	Tyr	Arg 2025		Pro	Leu	Phe	Met 2030		Arg
Thr	Leu	Arg 2035		Phe	Tyr	Arg	Phe 2040		Gln	Leu	Thr	Val 2045		Ile	Tyr
Ser	Gln 2050		Tyr	Ile	Val	Lys 2055		Phe	Thr	Ile	Ala 2060		Thr	Lys	Thr
Asn 206		Phe	Tyr	Leu	Leu 2070		Gly	Leu		Ile 2075		Met	Ala	Leu	Thr 2080
Cys	Thr	Leu	Gln	Leu 2085	Leu	Leu	Gly	Ser	Ile 2090	_	Leu	Leu	Leu	Ile 2095	
Leu	Asp	His	Phe 2100		Thr	Ile	Tyr	Tyr 2105		Met	Asn	Tyr	Asn 2110		Leu
Lys	Met	Gln 2115		Ile	Ile	Ser	Pro 2120		Ala	Lys	Gln	Gln 2125	_	Met	Ser
	2130	)			Phe	2135	;				2140	)			
Met 214	_	Leu	Leu	Ile	Phe		Thr	Val	T.e11	3/10-	~1 m	Tle	Dhe	T.e.11	Leu
Val					2150	)			LCu	2155			FIIC	пса	2160
	Met	Pro	Leu	Leu 2165	Ile		Asp			2155 His	5				Thr
Leu				2165 Leu	Ile	Ser	_	Leu	Phe 2170 Val	2155 His )	Phe	Pro	Leu	Leu 2175 Leu	Thr
	Ile	Ala	Ile 2180 Ile	2165 Leu )	Ile	Ser Ser	Cys	Leu Leu 2185 Ile	Phe 2170 Val	2155 His ) Val	Phe Cys	Pro Ser	Leu Arg 2190 Met	Leu 2175 Leu )	Thr ; Ile
Asn	Ile Phe	Ala Phe 2199 Arg	Ile 2180 Ile	2165 Leu ) Val	Ile Gly	Ser Ser Phe	Cys Leu 2200 Asp	Leu Leu 2185 Ile	Phe 2170 Val Ile	2155 His ) Val Val	Phe Cys Leu	Pro Ser Lys 2205 Ser	Leu Arg 2190 Met	Leu 2175 Leu ) Gln	Thr Ile Lys
Asn Lys	Ile Phe Met 2210	Ala Phe 2195 Arg	Ile 2180 Ile Leu	2165 Leu Val	Ile Gly Asn	Ser Ser Phe Arg 2215 Met	Cys Leu 2200 Asp	Leu Leu 2185 Ile ) Cys	Phe 2170 Val Ile Pro	2155 His Val Val	Phe Cys Leu Ser 2220 Ser	Pro Ser Lys 2205 Ser	Leu Arg 2190 Met His	Leu 2175 Leu ) Gln Trp	Thr Ile Lys Thr
Asn Lys Val 222	Ile Phe Met 2210 Phe	Ala Phe 2195 Arg ) Cys	Ile 2180 Ile Leu Lys	2165 Leu Val Lys Leu	Ile Gly Asn Leu Leu 2230 Ala	Ser Ser Phe Arg 2215 Met	Cys Leu 2200 Asp Gln	Leu Leu 2185 Ile Cys Asn	Phe 2170 Val Ile Pro	2155 His Val Val Phe Pro 2235 Ile	Phe Cys Leu Ser 2220 Ser	Pro Ser Lys 2205 Ser Phe	Leu Arg 2190 Met His	Leu 2175 Leu ) Gln Trp His	Thr Ile Lys Thr Ile 2240 Ile
Asn Lys Val 222 Met	Ile Phe Met 2210 Phe Asn	Phe 2195 Arg Cys	Ile 2180 Ile Leu Lys His	2165 Leu Val Lys Leu Pro 2245 Thr	Ile Gly Asn Leu Leu 2230 Ala	Ser Ser Phe Arg 2215 Met Lys	Cys Leu 2200 Asp Gln	Leu Leu 2185 Ile Cys Asn	Phe 2170 Val Ile Pro Asp Leu 2250 Lys	2155 His Val Val Phe Pro 2235 Ile	Phe Cys Leu Ser 2220 Ser His	Pro Ser Lys 2205 Ser Phe Tyr	Leu Arg 2190 Met His Gln	Leu 2175 Leu ) Gln Trp His Asn 2255 Pro	Thr Ile Lys Thr Ile 2240 Ile
Asn Lys Val 222 Met Val	Ile Phe Met 2210 Phe Asn Ile	Phe 2195 Arg Cys Phe	Ile 2180 Ile Leu Lys His Tyr 2260 Cys	2165 Leu Val Lys Leu Pro 2245 Thr	Ile Gly Asn Leu Leu 2230 Ala	Ser Ser Phe Arg 2215 Met Lys	Cys Leu 2200 Asp Gln Thr	Leu Leu 2185 Ile Cys Asn Cys Gln 2265 Cys	Phe 2170 Val Ile Pro Asp Leu 2250 Lys	2155 His Val Val Phe Pro 2235 Ile Cys	Phe Cys Leu Ser 2220 Ser His	Pro Ser Lys 2205 Ser Phe Tyr	Leu Arg 2190 Met His Gln Ile Phe 2270 Arg	Leu 2175 Leu ) Gln Trp His Asn 2255 Pro	Thr ile Lys Thr ile 2240 Ile Ala
Asn Lys Val 2222 Met Val Leu	Ile Phe Met 2210 Phe 5 Asn Ile Leu	Phe 2195 Cys Phe Phe 11e 2275 Gln	Ile 2180 Ile Leu Lys His Tyr 2260 Cys	2165 Leu Val Lys Leu Pro 2245 Thr Tyr	Gly Asn Leu 2230 Ala Val	Ser Ser Phe Arg 2215 Met Lys Lys Leu	Cys Leu 2200 Asp Gln Thr Leu Cys 2280 Ile	Leu Leu 2185 Ile Cys Asn Cys Gln 2265 Cys	Phe 2170 Val Ile Pro Asp Leu 2250 Lys Leu	2155 His Val Val Phe Pro 2235 Ile Cys Glu	Phe Cys Leu Ser 2220 Ser His Leu	Pro Ser Lys 2205 Ser Phe Tyr Thr Ile 2285 Leu	Leu Arg 2190 Met His Gln Ile Phe 2270 Arg	Leu 2175 Leu Gln Trp His Asn 2255 Pro	Thr ile Lys Thr ile 2240 ile Ala Lys

Gln Asn Gln His Leu Thr Leu Leu Leu Ile Leu Lys Thr Gly His Cys 2330 2325 Phe Gln Glu Gln Ser Leu Leu Phe Gln Pro Thr Ser Leu Trp Phe Leu 2350 2345 2340 Lys Glu Met Phe Cys Phe Leu Ser Ala Leu Cys Thr Leu Gln Phe Phe 2355 2360 2365 Gln Met Pro Arg Val Ile Lys Phe Phe Met Leu Lys Pro Ala Val Phe 2375 2380 Ser Leu Leu Thr Lys Ser Val Pro Lys Thr Val His Leu Phe Leu Cys 2395 2390 Cys His Val Thr Gln Gln Ile Arg Ala Pro Gln Ala Ser Arg Leu Tyr 2405 2410 Ile Ile Trp Ser Lys Leu Gln His Leu Glu Gln Lys Asn Lys Met Ile 2420 2425 2430 Leu Arg His Phe Cys Ile Ser Thr Ala Ile Ile Cys Pro Lys Met 2440 2445 Ile Lys Phe Ser His Phe Arg Ala Ile Asn Pro Ser Val Ala Ala Met 2460 2455 Ala Leu Glu Asn Leu Glu His Ala Thr Tyr Leu Gln Lys Val Ser Leu 2470 2475 Gln Leu Lys Trp Arg Asn Gly His Asn His His Leu His Phe Leu 2485 2490 Lys Lys Lys Tyr Thr Lys Asn Tyr Met Arg Leu Val Val Tyr Leu Met 2505 2510 2500 Ile Leu Arg Tyr Ile Asn Thr Ser Tyr Gln Lys Leu Lys Ile Ser Leu 2515 2520 2525 Met Met Gln Asn Ser Thr Ser Thr Leu Arg Ile Asp Tyr Gln Val Leu 2535 2540 Arg Asn Tyr Gln Arg Leu Arg Asn Asn Phe Leu Lys Asn Trp Lys Val 2550 2555 2560 Tyr Ser Met Met Leu Thr Val Asp Ser Lys Gln Ser Ile Ser Met Ile 2565 2570 Glu Leu Glu Phe Leu Lys Leu Cys Phe Leu Lys Asn Cys Leu Phe Leu 2585 2590 Met Ile Ser Leu Arg Asn Trp Asn Asn Leu Asn Pro Lys Ile Met Leu 2595 2600 2605 His Leu His Pro Gly Trp Asn Ser Glu Ile Leu Asp Asn Thr Tyr Phe 2615 2620 Leu Ser Ser Ser Cys Tyr Ser Leu Leu Arg Lys Ser Val Gly Leu Ile 2630 2635 Gln Lys Thr Gly Pro Lys Lys His Cys Lys Ile Gln Leu Ile Ser Phe 2645 2650 2655 Cys Ile Ile Tyr Ser Lys Asn Glu Trp Ile Cys Tyr Leu Glu Ile Phe 2660 2665 2670 Lys Asn Tyr Leu Tyr His Ser Tyr Val Leu Ser Gly Pro Pro Arg Asn 2680 2685 Ser Leu Asp Phe Ile Leu Asn Ile Lys Arg Met Glu His Phe Leu Leu 2695 2700 Ser Ser Met Glu His Arg Ile Gln Asn Ser Ser Asn Val Met Tyr Ser 2710 2715 Ser Cys Tyr Gly His Pro Ala Leu Phe Phe Gln Arg Lys Leu His Pro 2725 2730 Ala Leu Lys Asn Lys Lys Val Val Thr Leu Val His Lys Asn Ser Leu 2745 2750 2740 Asn Lys Phe Ile Cys Leu Met Leu Thr Trp Ile Leu Leu Leu Ile Arg 2760 2765 Ser Ile Thr Ala Glu Thr Tyr Ala Thr Arg Arg Trp Met Lys Lys Trp 2775 2780

2785   2790   2795   2800   2815   2816   2816   2816   2815   2816		Glu	Gln	Lys	Ser 2790		Ala	Tyr	Met	Asn 2795		Ser	Val	Gln	Lys 2800
Val Gly		Asn	Phe		Phe		Cys	Glu	_	Leu		Leu	Trp		Met
Asn Leu   11e Cys   Thr   Ser   Tyr   Leu   Asn   Leu   Ala   His   Phe   Thr   Ser   Cys   2845   2845   2845   2845   2845   2845   2855   2865   2865   2865   2865   2875   2865   2875   2875   2875   2880   2875   2875   2880   2875   2875   2880   2875   2880   2875   2880   2885   2890   2895	Val Gly	Asn		Ser		Arg	Arg		Thr		Met	Asn			Leu
Ser Asn Thr Val Leu Lys Ile Leu Phe Gln Leu Ser Asn Met Leu Lys 2850   2850   2855   2860   2865   2870   2875   2875   2887	Asn Leu		Cys		Ser	Tyr			Leu	Ala	His			Ser	Cys
2865			Val	Leu	Lys			Phe	Gln	Leu			Met	Leu	Lys
The Gin Ser Arg Gly Val I le Ser Arg Gly Tyr Glu Thr Leu Arg Phe 2905   2915   2915   2925   2925   2925   2925   2925   2925   2925   2925   2925   2925   2925   2926   2935	-	Ala	Tyr	Leu	_		Leu	Arg	Ala			Ile	Leu	Met	
2900	-			2885	5				2890	)	_			2895	5
Met Arg His Ile Ile Lys Val Glu Ser Arg Gly Ile Leu Val Cys Lys 2930			2900	)				2905	5				2910	)	
2930		291	5	_			2920	)				2925	5		
2945	293	)			-	2935	5		_	-	2940	)		_	_
Lys Asn Asn Met Lys Arg Leu Pro Lys Phe Val Ser Leu Glu Arg Cys 2980  Val Leu Phe Lys Glu Asp Cys Ser Tyr Ser Cys Leu Leu Asn Ser Ser 2990  Val Leu Phe Lys Glu Asp Cys Ser Tyr Ser Cys Leu Leu Asn Ser Ser 3000  Leu Gln Asp Leu Glu Leu Ser Met Lys Met Ile Met Leu Phe Trp Pro 3010  Met Lys Lys Lys Pro Asp Phe Ala Lys Pro Glu Lys Asp Lys Tyr Pro 3025  Pro Thr Ala Glu Val Lys Leu Leu Leu Leu Leu Phe 3045  Pro Thr Ala Glu Val Lys Leu Leu Leu Leu Phe Ser Asp Leu Val Met Gln Asg 3070  Ser Ser Cys Ser Thr Phe Asn Ile Gln Thr Val Lys Thr Leu Ile Ser 3075  Cys His Trp Gln Leu Leu Asn Gln Gln Leu Thr Ile Phe Leu Thr Leu 3090  His Ile Leu Leu Cys Asp Ala Met Ile Phe Thr Gly Leu Val Arg Asn 3110  Ser Ser Cys Leu Ala His Gln Phe Leu Lys Phe Ile Thr Leu Val Arg Asn 3125  Gln Cys Leu Ala His Gln Phe Leu Lys Phe Ile Thr Leu Gly Thr Leu Leu 3140  Trp Thr Gln Met Phe Phe Thr Arg Glu Asn Met Leu Gly Thr Leu Leu 3157  Met Gln Leu Lys Val Val Ile Ser Met Asp His Thr Ser Gln His Thr His 3170  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu Lus 3185  Ala Leu Leu Ile Cys Ile Ser Phe Gln Asp Leu Arg Lys Ala Leu Lys Leu Thr Ile Leu Lus 3205  Ala Gly Thr Val Leu Leu Leu His Gln Pro Ala Pro Leu Ser	2945				2950	)		_	_	2955	5	_			2960
Val Leu Phe Lys Glu Asp Cys Ser Tyr Ser Cys Leu Leu Asn Ser Ser 2995  Leu Gln Asp Leu Glu Leu Ser Met Lys Met Ile Met Leu Phe Trp Pro 3015  Leu Gln Asp Leu Glu Leu Ser Met Lys Met Ile Met Leu Phe Trp Pro 3025  Met Lys Lys Lys Pro Asp Phe Ala Lys Pro Glu Lys Asp Lys Tyr Pro 3025  Ala Leu Lys Ser Phe Lys Gln His Glu Leu Lys Val Leu Ile Leu Phe 3045  Pro Thr Ala Glu Val Lys Leu Leu Leu Phe Ser Asp Leu Val Met Gln 3065  Ser Ser Cys Ser Thr Phe Asn Ile Gln Thr Val Lys Thr Leu Ile Ser 3090  Kis Ile Leu Leu Cys Asp Ala Met Ile Phe Thr Gly Leu Val Arg Asn 3105  Glu Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Val Arg Asn 3105  Glu Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Val Arg Asn 3135  Gln Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Cys Leu 3135  Gln Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Cys Leu 3135  Gln Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Cys Leu 3135  Gln Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Cys Leu 3135  Met Leu Lys Val Val Ile Ser Met Asp His Thr Ser Gln His Thr Leu Leu 3157  Met Gln Leu Leu Tyr Lys Lys Lys Glu Lys Met Leu Gly Thr Leu Leu 3157  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr His 3170  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu Leu 3185  Met Leu Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu Leu 3187  Ala Leu Leu Ile Cys Ile Ser Phe Gln Asp Leu Arg Lys Ala Leu Lys Leu 3200  Val Phe Glu Arg Tyr Ile Arg Ile Leu Val Ile Val Asn Ile Lys Leu 3210  Ala Cly Thr Val Leu Leu Lys Ala Cly Thr Leu Lys Ala Clys Ala Clys Ala Clys Sala Clys Ala Clys Sala Clys Ala Clys Sala Cl	_			2965	5			_	2970	)	_			2975	5
Leu Gln Asp Leu Glu Leu Ser Met Lys Met Ile Met Leu Phe Trp Pro 3010 3015 3015 3020  Met Lys Lys Lys Pro Asp Phe Ala Lys Pro Glu Lys Asp Lys Tyr Pro 3025 3045 3040  Ala Leu Lys Ser Phe Lys Gln His Glu Leu Lys Val Leu Ile Leu Phe 3060 3065 3050 3050  Pro Thr Ala Glu Val Lys Leu Leu Leu Leu Leu Lys Val Leu Ile Leu Phe 3067 3080 5000  Ser Ser Cys Ser Thr Phe Asn Ile Gln Thr Val Lys Thr Leu Ile Ser 3090 3095 3095  Cys His Trp Gln Leu Leu Asn Gln Gln Leu Thr Ile Phe Leu Thr Leu 3090 3095 3095  His Ile Leu Leu Cys Asp Ala Met Ile Phe Thr Gln Leu Val Arg Asn 3105 3120  Leu Thr Val Glu Asn Met Thr Leu Arg Ser His Gln Asn Trp Asn Phe 3125 3130 3130  Trp Thr Gln Met Phe Phe Thr Arg Glu Asn Met Leu Gly Thr Leu Leu 3155 3160 5165  Met Leu Lys Val Ile Ser Met Asp His Thr Ser Gln His Thr His 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr His Ser 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr His Ser 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Lys Lys Glu Lys Met Leu Thr Ile Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr His Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3170 3175 3175  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3175 3175  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3175 3175  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3175 3175  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185 3175 3175  Met Gln Leu Leu Tyr Lys Lys Leu Lys Glu Lys M			2980	)				2985	5				2990	)	
Met Lys Lys Lys Pro Asp Phe Ala Lys Pro Glu Lys Asp Lys Tyr Pro 3025		299	5				3000	)				3005	5		
3025		)			Leu			Lys	Met	Ile			Phe	Trp	Pro
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$															
Ser Ser Cys Ser Thr Phe Asn Ile Gln Thr Val Lys Thr Leu Ile Ser 3075  Cys His Trp Gln Leu Leu Asn Gln Gln Leu Thr Ile Phe Leu Thr Leu 3097  His Ile Leu Leu Cys Asp Ala Met Ile Phe Thr Gly Leu Val Arg Asn 3110  Leu Thr Val Glu Asn Met Thr Leu Arg Ser His Gln Asn Trp Asn Phe 3125  Gln Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Cys Leu 3157  Trp Thr Gln Met Phe Phe Thr Arg Glu Asn Met Leu Gly Thr Leu Leu 3155  Met Leu Lys Val Val Ile Ser Met Asp His Thr Ser Gln His Thr Leu Leu 3157  Met Gln Leu Leu Tyr Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185  Met Gln Leu Leu Tyr Ile Arg Ile Leu Val Lys Glu Lys Met Leu Thr Ile Leu 3185  Met Gln Leu Leu Tyr Ile Arg Ile Leu Val Ile Val Asn Ile Lys Leu 3190  Val Phe Glu Arg Tyr Ile Arg Ile Leu Val Ile Val Asn Ile Lys Leu 3200  Val Phe Glu Arg Tyr Ile Ser Phe Gln Asp Leu Arg Lys Ala Leu Lys Lau 3205  Ala Gly Thr Val Leu Leu Leu His Gln Pro Ala Pro Leu Ser Ser Ser	3025	_	_		3030	)				3035	5				3040
Cys His Trp Gln Leu Leu Asn Gln Gln Leu Thr Ile Phe Leu Thr Leu 3090  His Ile Leu Leu Cys Asp Ala Met Ile Phe Thr Gly Leu Val Arg Asn 3110  Leu Thr Val Glu Asn Met Thr Leu Arg Ser His Gln Asn Trp Asn Phe 3125  Gln Cys Leu Ala His Gln Phe Leu Lys Phe Ile Thr Leu Cys Leu 3140  Trp Thr Gln Met Phe Phe Thr Arg Glu Asn Met Leu Gly Thr Leu Leu 3155  Met Leu Lys Val Val Ile Ser Met Asp His Thr Ser Gln His Thr His 3170  Met Gln Leu Lys Val Val Ile Ser Met Asp His Thr Ser Gln His Thr His 3170  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185  Met Gln Leu Leu Tyr Lys Lys Lys Cheu Lys Glu Lys Met Leu Thr Ile Leu 3185  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3185  Met Gln Leu Leu Tyr Lys Lys Lys Leu Lys Glu Lys Met Leu Thr Ile Leu 3200  Val Phe Glu Arg Tyr Ile Arg Ile Leu Val Ile Val Asn Ile Lys Leu 3220  Ala Gly Thr Val Leu Leu Leu His Gln Pro Ala Pro Leu Ser Ser Ser Ser	3025 Ala Leu	Lys	Ser	Phe 3045	3030 Lys	) Gln	His	Glu	Leu 3050	3035 Lys )	Val	Leu	Ile	Leu 3055	3040 Phe
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Gln Cys Leu Ala His Gln Phe Leu Leu Lys Phe Ile Thr Leu Cys Leu $3135$ Try Thr Gln Met Phe Phe Thr Arg Glu Asn Met Leu Gly Thr Leu Leu Leu $3155$ Try $31$	3025 Ala Leu Pro Thr Ser Ser Cys His 309	Lys Ala Cys 3079 Trp	Ser Glu 3060 Ser Gln	Phe 3045 Val ) Thr	3030 Lys Lys Lys Phe	Gln Leu Asn Asn 3095	His Leu Ile 3080 Gln	Glu Leu 3065 Gln ) Gln	Leu 305( Phe Thr	3035 Lys Ser Val	Val Asp Lys Ile 3100	Leu Leu Thr 3085 Phe	Ile Val 3070 Leu Leu	Leu 3055 Met ) Ile Thr	3040 Phe Gln Ser Leu
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	_	595	_		Ser		600			_		605			
	610				Arg	615					620				
Pro 625	Asn	Thr	Pro	Val	Pro 630	Ile	His	His	Ser	Lys 635	Asn	Pro	Ser	Lys	Leu 640

Ile Met Lys Pro Ile His Glu Cys Cys Tyr Cys Asp Ile Lys Val Asp Asp Leu Asn Asp Leu Leu Glu Asp Ser Val Glu Pro Ile Ile Leu Val His Glu Asp Ile Pro Met Lys Thr Ala Glu Trp Leu Lys Val Pro Cys Leu Ser Thr Arg Leu Ile Asn Pro Glu Asn Met Gly Phe Glu Gln Ser Gly Gln Arg Glu Pro Leu Thr Val Arg Ile Lys Asn Ile Leu Glu Glu Tyr Pro Ser Val Ser Asp Ile Phe Lys Glu Leu Leu Gln Asn Ala Asp Asp Ala Asn Ala Thr Glu Cys Ser Phe Leu Ile Asp Met Arg Arg Asn Met Asp Ile Arg Glu Asn Leu Leu Asp Pro Gly Met Ala Ala Cys His Gly Pro Ala Leu Trp Ser Phe Asn Asn Ser Gln Phe Ser Asp Ser Asp Phe Val Asn Ile Thr Arg Leu Gly Glu Ser Leu Lys Arg Gly Glu Val Asp Lys Val Gly Lys Phe Gly Leu Gly Phe Asn Ser Val Tyr His Ile Thr Asp Ile Pro Ile Ile Met Ser Arg Glu Phe Met Ile Met Phe Asp Pro Asn Ile Asn His Ile Ser Lys His Ile Lys Asp Lys Ser Asn Pro Gly Ile Lys Ile Asn Trp Ser Lys Gln Gln Lys Arg Leu Arg Lys Phe Pro Asn Gln Phe Lys Pro Phe Ile Asp Val Phe Gly Cys Gln Leu Pro Leu Thr Val Glu Ala Pro Tyr Ser Tyr Asn Gly Thr Leu Phe Arg Leu Ser Phe Arg Thr Gln Gln Glu Ala Lys Val Ser Glu Val Ser Ser Thr Cys Tyr Asn Thr Ala Asp Ile Tyr Ser Leu Val Asp Glu Phe Ser Leu Cys Gly His Arg Leu Ile Ile Phe Thr Gln Ser Val Lys Ser Met Tyr Leu Lys Tyr Leu Lys Ile Glu Glu Thr Asn Pro Ser Leu Ala Gln Asp Thr Val Ile Ile Lys Lys Ser Cys Ser Ser Lys Ala Leu Asn Thr Pro Val Leu Ser Val Leu Lys Glu Ala Ala Lys Leu Met Lys Thr Cys Ser Ser Ser Asn Lys Leu Pro Ser Asp Glu Pro Lys Ser Ser Cys Ile Leu Gln Ile Thr Val Glu Glu Phe His His Val Phe Arg Arg Ile Ala Asp Leu Gln Ser Pro Leu Phe Arg Gly Pro Asp Asp Pro Ala Ala Leu Phe Glu Met Ala Lys Ser Gly Gln Ser Lys Lys Pro Ser Asp Glu Leu Ser Gln Lys Thr Val Glu Cys Thr Thr Trp Leu Leu Cys Thr Cys Met Asp Thr Gly Glu Ala Leu Lys Phe Ser Leu Ser Glu Ser Gly Arg Arg Leu Gly Leu Val Pro Cys Gly Ala Val Gly Val Gln Leu Ser 

Glu Ile 1105	Gln Asp		Lys Trp 1110	Thr	Val	Lys	Pro 1115		Ile	Gly	Glu	Val 1120
Phe Cys	Tyr Let	Pro I 1125	Leu Arg	Ile	Lys	Thr 1130		Leu	Pro	Val	His 1135	
Asn Gly	Cys Phe		Val Thr	Ser	Asn 1145		Lys	Glu	Ile	Trp 1150		Thr
Asp Thr	Lys Gly	Arg 1	Trp Asn	Thr 1160		Phe	Met	Arg	His 1169		Ile	Val
Lys Ala 1170	-	Gln V	Val Leu 1179		Val	Leu	Arg	Asp 1180		Ala	Thr	Ser
Gly Glu 1185	Leu Met		Tyr Thr 1190	Tyr	Tyr	Ala	Val 1199		Pro	Asp	Pro	Asp 1200
Leu Val		1205				1210	)				1215	5
Ile Ala	His Gly		Gly Lys	Glu	Leu 1225		Lys	Val	Phe	Ser 1230		Gly
Ser Thr	1235		_	1240	)				1245	5		
Leu Lys 1250	)		1255	5				1260	)			
Tyr Leu 1265		1	1270	_			1275	5				1280
Ser Ser	-	1285	_			1290	) _	_			1295	5
Leu Glu	130	0			1305	5				1310	)	
Pro Asn	1315			1320	)		_	_	1325	5		
Phe Val 1330	כ		1335	5				1340	)			
Thr Pro 1345		1	1350				1355	5				1360
Ser Arg		1365				1370	0				1375	5
Lys Asp	138	0	_	_	1385	5				1390	)	
Ile Ile	1395	_		1400	)	_			140	5		
Leu Trp 1410	)		1415	5				1420	)			
Lys Ser 1425	-	1	1430	_		_	1435	5				1440
Leu Ile	_	1445				1450	0				1455	5
Ala Ala	Lys Tyr		Thr Ile	Arg	Phe 1465		Pro	Phe	Leu	Thr 147	_	Pro
Ala Gly	1475			1480	)				148	5		
Met Phe 1490	)		1499	5				1500	)			
Cys Leu 1505		1	1510				1515	5				1520
Cys Gly	Ser Val	Ser I 1525	Leu Ala	Val	Lys	Glu 1530		Leu	Gly	Leu	Leu 1535	
Lys Pro	Thr Val	_	Leu Val	Ile	Asn 1545		Leu	Lys	Glu	Val 1550		Lys
Ser Val	Asp Asp 1555	Gly I	Ile Thr	Leu 1560		Gln	Glu	Asn	Ile 1569		Asn	Ala

	Tyr Le	u His			Leu	Met	Gln			Ile	Thr	Lys
1570 Met Ser Ile	Ile As				Pro	Phe				Leu	Val	
1585		159		_		_	1595		_	_	_,	1600
Asn Ala Tyr		p Ser 05	Glu	Lys	Val	Ser 1610		His	Leu	Asn	Phe 1615	
Ala Ala Pro	Tyr Le 1620	u Tyr	Gln	Leu	Pro 1625		Lys	Tyr	Lys	Asn 1630		Phe
Arg Glu Leu 163	Phe Gl	u Thr	Val		Val		Gln	Ser	Cys 1645		Val	Glu
Asp Phe Ala 1650	Leu Va	l Leu	Glu 1655		Ile	Asp	Gln	Glu 1660		Gly	Thr	Lys
Gln Ile Thr	Glu Gl	u Asn 167	Phe		Leu	Cys	Arg 1675	Arg		Ile	Ser	Glu 1680
Gly Ile Trp	Ser Le			Glu	Lvs	Lvs			Phe	Cvs	Glu	
_	16	85	_			1690	)				1695	5
Asn Tyr Gly	1700				1705	5				1710	)	
Ala Lys Ser 171	5	_		1720	)				1725	5	_	
Thr Thr Val 1730	Lys Ty	r Cys	His 1735		Asp	Ile	Pro	Arg 1740		Val	Ala	Val
Lys Leu Gly	Ala Va	l Pro	Lys	Arg	His	Lys	Ala	Leu	Glu	Arg	Tyr	
1745		175					1755		_	_		1760
Ser Asn Val		e Thr 65	Thr	Leu	Gly	Thr 1770		Phe	Gly	Gln	Lys 1775	
Lys Leu Thr	Ser Ar 1780	g Ile	Lys	Ser	Ile 1785		Asn	Ala	Tyr	Pro 1790		Glu
Lys Glu Met 179	_	s Glu	Leu	Leu 1800		Asn	Ala	Asp	Asp 1805		Lys	Ala
Thr Glu Ile	Cys Ph	e Val		Asp	Pro	Arg	Gln		Pro		Asp	Arg
1810	_		1815	Asp				1820	Pro	Val		
	_		1815 Ala	Asp				1820 Pro	Pro	Val		
1810 Ile Phe Asp	Asp Ly	s Trp 1830	1819 Ala O	Asp Pro	Leu	Gln	Gly 1835 Val	1820 Pro	Pro ) Ala	Val Leu	Cys	Val 1840 Asn
1810 Ile Phe Asp 1825	Asp Ly Gln Pr 18 Gly Th	s Trp 1830 o Phe 45	1819 Ala O Thr	Asp Pro Glu	Leu Asp Asn	Gln Asp 1850 Pro	Gly 1835 Val	1820 Pro Arg	Pro ) Ala Gly	Val Leu Ile	Cys Gln 1855 Gln	Val 1840 Asn
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly	Asp Ly Gln Pr 18 Gly Th 1860 Phe As	s Trp 1830 o Phe 45 r Lys	1819 Ala O Thr	Asp Pro Glu Gly Tyr	Leu Asp Asn 1865 His	Gln Asp 1850 Pro	Gly 1835 Val ) Tyr	1820 Pro Arg Lys	Pro Ala Gly Thr Cys	Val Leu Ile Gly 1870 Pro	Cys Gln 1855 Gln	Val 1840 Asn Tyr
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1879 Ile Ser Gly	Asp Ly Gln Pr 18 Gly Th 1860 Phe As 5 Asn As	s Trp 1830 o Phe 45 r Lys n Ser	1815 Ala Thr Glu Val	Asp Pro Glu Gly Tyr 1880 Cys	Leu Asp Asn 1869 His	Gln Asp 1850 Pro Ile	Gly 1835 Val Tyr Thr	1820 Pro Arg Lys Asp	Pro Ala Gly Thr Cys 1885	Val Leu Ile Gly 1870 Pro	Cys Gln 1855 Gln ) Ser	Val 1840 Asn Tyr
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1879 Ile Ser Gly 1890	Asp Ly Gln Pr 18 Gly Th 1860 Phe As 5 Asn As	s Trp 1830 o Phe 45 r Lys n Ser p Ile	1819 Ala Thr Glu Val Leu 1899	Asp Pro Glu Gly Tyr 1880 Cys	Leu Asp Asn 1865 His	Gln Asp 1850 Pro Ile Phe	Gly 1835 Val Tyr Thr	1820 Pro Arg Lys Asp Pro	Pro Ala Gly Thr Cys 1885 His	Val Leu Ile Gly 1870 Pro Ala	Cys Gln 1855 Gln ) Ser Arg	Val 1840 Asn Tyr Phe
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1879 Ile Ser Gly 1890 Ala Pro Gly	Asp Ly Gln Pr 18 Gly Th 1860 Phe As 5 Asn As	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser	1819 Ala Thr Glu Val Leu 1899 Ile	Asp Pro Glu Gly Tyr 1880 Cys	Leu Asp Asn 1865 His	Gln Asp 1850 Pro Ile Phe	Gly 1835 Val Tyr Thr Asp	1820 Pro Arg Lys Asp Pro 1900 Met	Pro Ala Gly Thr Cys 1885 His	Val Leu Ile Gly 1870 Pro Ala	Cys Gln 1855 Gln ) Ser Arg	Val 1840 Asn Tyr Phe Tyr
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1879 Ile Ser Gly 1890	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr	1815 Ala Thr Glu Val Leu 1895 Ile	Asp Pro Glu Gly Tyr 1880 Cys	Leu Asp Asn 1865 His Ile Pro	Asp 1850 Pro Ile Phe Gly	Gly 1835 Val Tyr Thr Asp Arg 1915 Val	1820 Pro Arg Lys Asp Pro 1900 Met	Pro Pro Ala Gly Thr Cys 1885 His Phe	Val Leu Ile Gly 1870 Pro Ala Arg	Cys Gln 1855 Gln Ser Arg Asp	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1879 Ile Ser Gly 1890 Ala Pro Gly 1905	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr	1815 Ala Thr Glu Val Leu 1895 Ile O	Asp Pro Glu Gly Tyr 1880 Cys Ser	Leu Asp Asn 1865 His Ile Pro Ser Cys	Asp 1850 Pro Ile Phe Gly Asp 1930 Thr	Gly 1835 Val Tyr Thr Asp Arg 1915 Val	1820 Pro Arg Lys Asp Pro 1900 Met	Pro Pro Ala Gly Thr Cys 1885 His Phe Asp	Val Leu Ile Gly 1870 Pro Ala Arg Leu	Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 187 Ile Ser Gly 1890 Ala Pro Gly 1905 Asp Ala Asp Gly Thr His	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly 1940	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr 25 s Leu	1815 Ala Thr Glu Val Leu 1895 Ile O Gln Asp	Asp Pro Glu Gly Tyr 1880 Cys Ser Phe	Leu Asp Asn 1865 His Ile Pro Ser Cys 1945	Asp 1850 Pro Ile Phe Gly Asp 1930 Thr	Gly 1835 Val Tyr Thr Asp Arg 1915 Val	1820 Pro Arg Lys Asp Pro 1900 Met Leu	Pro Ala Gly Thr Cys 1885 His Phe Asp	Val Leu Ile Gly 1870 Pro Ala Arg Leu Phe 1950	Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu Leu
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1877 Ile Ser Gly 1890 Ala Pro Gly 1905 Asp Ala Asp Gly Thr His Arg Asn Ala	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly 1940 Glu Me	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr 25 s Leu	1815 Ala Thr Glu Val Leu 1895 Ile O Gln Asp	Asp Pro Glu Gly Tyr 1880 Cys Ser Phe Asn Val	Asp Asn 1865 His Ile Pro Ser Cys 1945 Ser	Asp 1850 Pro Ile Phe Gly Asp 1930 Thr	Gly 1835 Val Tyr Thr Asp Arg 1915 Val	1820 Pro Arg Lys Asp Pro 1900 Met Leu	Pro Ala Gly Thr Cys 1885 His Phe Asp Arg Ser	Val Leu Ile Gly 1870 Pro Ala Arg Leu Phe 1950 Val	Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu Leu
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1877 Ile Ser Gly 1890 Ala Pro Gly 1905 Asp Ala Asp Gly Thr His Arg Asn Ala 1955 Ser Asp Arg	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly 1940 Glu Me	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr 25 s Leu t Ala	1815 Ala Thr Glu Val Leu 1895 Ile Gln Asp Lys Asn	Asp Pro Glu Gly Tyr 1880 Cys Ser Phe Asn Val 1960 Leu	Asp Asn 1865 His Ile Pro Ser Cys 1945 Ser	Asp 1850 Pro Ile Phe Gly Asp 1930 Thr	Gly 1835 Val Tyr Thr Asp Arg 1915 Val Met	1820 Pro Arg Lys Asp Pro 1900 Met Leu Phe Ser Leu	Pro Ala Gly Thr Cys 1885 His Phe Asp Arg Ser 1965 Arg	Val Leu Ile Gly 1870 Pro Ala Arg Leu Phe 1950 Val	Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro )	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu Leu
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1870 Ile Ser Gly 1890 Ala Pro Gly 1905 Asp Ala Asp Gly Thr His Arg Asn Ala 1955	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly 1940 Glu Me 5 Met Va	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr 25 s Leu t Ala	1815 Ala Thr Glu Val Leu 1895 Ile Gln Asp Lys Asn 1975	Asp Pro Glu Gly Tyr 1880 Cys Ser Phe Asn Val 1960 Leu	Asp Asn 1865 His Ile Pro Ser Cys 1945 Ser Leu	Asp 1850 Pro Ile Phe Gly Asp 1930 Thr	Gly 1835 Val Tyr Thr Asp Arg 1915 Val Met Ile	1820 Pro Arg Lys Asp Pro 1900 Met Leu Phe Ser Leu 1980	Pro Pro Ala Gly Thr Cys 1885 His Phe Asp Arg Ser 1965 Arg	Leu Ile Gly 1870 Pro Ala Arg Leu Phe 1950 Val	Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro Pro	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu Leu Ala
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1870 Ile Ser Gly 1890 Ala Pro Gly 1905 Asp Ala Asp Gly Thr His Arg Asn Ala 1955 Ser Asp Arg 1970	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly 1940 Glu Me 5 Met Va	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr 25 s Leu t Ala	Thr Glu Val Leu 1895 Ile Gln Asp Lys Asn 1975 Leu	Asp Pro Glu Gly Tyr 1880 Cys Ser Phe Asn Val 1960 Leu	Asp Asn 1865 His Ile Pro Ser Cys 1945 Ser Leu	Asp 1850 Pro Ile Phe Gly Asp 1930 Thr	Gly 1835 Val Tyr Thr Asp Arg 1915 Val Met Ile	1820 Pro Arg Lys Asp Pro 1900 Met Leu Phe Ser Leu 1980 Lys	Pro Pro Ala Gly Thr Cys 1885 His Phe Asp Arg Ser 1965 Arg	Leu Ile Gly 1870 Pro Ala Arg Leu Phe 1950 Val	Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro Pro	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu Leu Ala
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1870 Ile Ser Gly 1890 Ala Pro Gly 1905 Asp Ala Asp Gly Thr His Arg Asn Ala 1955 Ser Asp Arg 1970 Ala Glu Leu	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly 1940 Glu Me 6 Met Va	s Trp 1830 0 Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr 25 s Leu t Ala l Gln t Phe 1990 r Thr	1815 Ala Thr Glu Val Leu 1895 Ile Gln Asp Lys Asn 1975 Leu D	Asp Pro Glu Gly Tyr 1880 Cys Ser Phe Asn Val 1960 Leu	Asp Asn 1865 His Ile Pro Ser Cys 1945 Ser Leu His	Gln Asp 1850 Pro Ile Phe Gly Asp 1930 Thr Glu Asp Met	Gly 1835 Val Tyr Thr Asp 1915 Val Met Ile Lys Glu 1995 Val	1820 Pro Arg Lys Asp Pro 1900 Met Leu Phe Ser Leu 1980 Lys	Pro Pro Ala Gly Thr Cys 1885 His Phe Asp Arg Ser 1965 Arg Ile	Leu Ile Gly 1870 Pro Ala Arg Leu Phe 1950 Val Ser Ser	Cys Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro Pro Asp	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu Ala Gly Cys 2000 Lys
1810 Ile Phe Asp 1825 Tyr Asn Asn Leu Gly Lys Gly Ile Gly 1870 Ile Ser Gly 1890 Ala Pro Gly 1905 Asp Ala Asp Gly Thr His Arg Asn Ala 1955 Ser Asp Arg 1970 Ala Glu Leu 1985	Asp Ly Gln Pr 18 Gly Th 1860 Phe As Asn As Ala Th Phe Ar 19 Phe Ly 1940 Glu Me Glu Me Lys Se 20	s Trp 1830 o Phe 45 r Lys n Ser p Ile r Ser 1910 g Thr 25 s Leu t Ala l Gln t Phe 1990 r Thr	1815 Ala Thr Glu Val Leu 1895 Ile Gln Asp Lys Asn 1975 Leu Gly	Asp Pro Glu Gly Tyr 1880 Cys Ser Phe Asn Val 1960 Leu Asn Ala	Asp Asn 1865 His Ile Pro Ser Cys 1945 Ser Leu His	Gln Asp 1850 Pro Ile Phe Gly Asp 1930 Thr Glu Asp Met Asn 2010 Lys	Gly 1835 Val Tyr Thr Asp 1915 Val Met Lys Glu 1995 Val	1820 Pro Arg Lys Asp Pro 1900 Met Leu Phe Ser Leu 1980 Lys	Pro Pro Ala Gly Thr Cys 1885 His Phe Asp Arg Ser 1965 Arg Ile	Leu Ile Gly 1870 Pro Ala Arg Leu Phe 1950 Val Ser Ser	Cys Gln 1855 Gln Ser Arg Asp Tyr 1935 Pro Pro Asp Ile Val 2015 His	Val 1840 Asn Tyr Phe Tyr Leu 1920 Leu Ala Gly Cys 2000 Lys

Ser	Val	Ile 2035	_	Ser	Val	Thr	Lys 2040	_	Arg	Gln	Leu	Lys 2045	_	Ile	Pro
Val	Gln 2050		Ile	Thr	Tyr	Thr 2055		Asp	Thr	Glu	Asp 2060		Glu	Gly	Asn
Leu 206	Thr 5	Thr	Trp	Leu	Ile 2070		Asn	Arg	Ser	Gly 2075		Ser	Ser	Met	Glu 2080
-	Val		-	2085	5				2090	)				2095	5
	Phe		2100	)				2105	5				2110	)	_
_	Pro	2115	5			_	2120	)				2125	5		_
	Pro 2130	)				2135	5				2140	)		_	
214		_	_	_	2150	)	_		_	2155	;				2160
	Ser			2165	5				2170	)				2175	5
	Gln Leu		2180	)				2185	5				2190	)	
	Leu	2195	5				2200	)		_	_	2205	5	_	_
	2210 Cys	)				2215	5	_		_	2220	)		_	
222					2230	)				2235	5				2240
_	Ser			2245	5				2250	)				2255	5
	Arg		2260	)			_	2265	5				2270	)	
	Asn	2275	5				2280	)				2285	5		
	2290 Tyr	)				2295	5				2300	)			
230	_	_		_	2310	)				2315	5				2320
_	Ile	_	_	2325	5				2330	)				2335	5
	Thr		2340	)				2345	5				2350	)	
	Arg	2355	5			_	2360	)	_			2365	5		
-	2370 Val	)				2375	5	_			2380	)		-	
238		_	_	-	2390	)				2395	;				2400
	Ala			2405	5				2410	)				2415	5
_	Arg	_	2420	)	_			2425	5	_			2430	)	
	Leu	2435	5				2440	)		_		2445	5		
	2450	)		_	_	2455	5	_			2460	)			
246					2470	)				2475	;				2480
сув	Thr	пλа	ттЪ	2485		ASII	FIIC	чта	2490		SEI	тър	ъeu	2495	

		_		2500	)				2509	5		_	Glu	2510	)	
C	Slu	Thr	Lys 251		Thr	Phe	Asp	Ile 2520		Val	Asp	Thr	Leu 2525		Asp	Trp
P	Ala	Leu 2530		Pro	Gly	Thr	Lys 2535		Thr	Val	Ser	Ala 2540	Asn )	Gln	Leu	Val
	/al 2545		Glu	Gly	Asp	Val 2550		Leu	Pro	Leu	Ser 2555		Met	His	Ile	Ala 2560
Į	/al	Phe	Pro	Asn	Ala 2569		Ser	Asp	Lys	Val 2570		His	Ala	Leu	Met 2575	
P	Ala	Gly	Сув	Ile 2580		Leu	Ala	Leu	Asn 2589	_	Ile	Cys	Ser	Lys 2590		Ser
P	Ala	Leu	Val 2599		Leu	Leu	Ser	Cys 2600		Thr	Ala	Asn	Ile 2609		Ser	Pro
T	hr	Ser 2610		Leu	Lys	Ala	Leu 2619		Tyr	Met	Val	Gln 2620	Thr	Ser	Thr	Phe
	Arg 2625		Glu	Lys	Leu	Val 2630		Asn	Asp	Phe	Glu 2635		Leu	Leu	Met	Tyr 2640
F	he	Asn	Сув	Asn	Leu 2645		His	Leu	Met	Ser 2650		Asp	Asp	Ile	Lys 2655	
Ι	ieu	Lys	Ser	Leu 2660		Cys	Tyr	Lys	Ser 2665		Ser	Gly	Arg	Tyr 2670		Ser
1	lle	Gly	Lys 2675		Gly	Thr	Cys	Tyr 2680		Leu	Thr	Lys	Ser 2685		Pro	Ser
P	Ala	Glu 2690		Glu	Lys	Trp	Thr 2699		Ser	Ser	Ser	Ser 2700	Ala )	Phe	Leu	Glu
	31u 2705	-	Ile	His	Leu	Lys 2710		Leu	Tyr	Glu	Val 271		Gly	Cys	Val	Pro 2720
V	/al	Asp	qaA	Leu	Glu 2725		Tyr	Leu	Lys	His 2730		Leu	Pro	Lys	Ile 2735	
P	Asn	Leu	Ser	Tyr 2740		Ala	Lys	Leu	Glu 2745		Leu	Ile	Tyr	Leu 2750		Asn
P	Arg	Leu	Ser 275		Ala	Glu	Glu	Leu 2760		Glu	Ile	Lys	Glu 2765		Leu	Phe
G	lu	Lys 2770		Glu	Ser	Leu	Leu 2775		Ile	His	Asp	Ala 2780	Asn )	Ser	Arg	Leu
	ys 2785		Ala	Lys	His	Phe 2790		Asp	Arg	Thr	Val 2799		Val	Phe	Glu	Val 2800
M	let	Leu	Pro	Glu	Lys 2805		Phe	Ile	Pro	Asn 2810		Phe	Phe	Lys	Lys 2815	
				2820	) _				2825	5			Met	2830	)	
V	/al	Glu	Phe 2835		Arg	Asn	Ile	Gly 2840		Lys	Tyr	Ile	Leu 2845		Gln	Gln
G	ln	Leu 2850		Gln	Phe	Ala	Lys 2855		Ile	Ser	Val	Arg 2860	Ala )	Asn	Thr	Glu
	sn 865	_	Ser	Lys	Glu	Thr 2870		Gln	Asn	Thr	Val 2875	_	Ile	Leu	Leu	His 2880
Н	lis	Ile	Phe	Gln	Glu 2885	_	Met	Asp	Leu	Leu 2890		Gly	Asn	Phe	Leu 2895	_
G	lu	Leu	Ser	Leu 2900		Pro	Phe	Leu	Cys 2905		Glu	Arg	Ala	Pro 2910		Glu
						_	G1 5	ጥረድ	Gln	Glu	Val	Asn	Glv	Thr	T.611	Pro
P	he	Ile	Arg 2915	Phe	His	Pro	GIII	2920		Olu	vai	11011	2925		пец	
			2915 Lys	5				2920 Gln	)				2925 Phe	5		
I A	eu	Ile 2930 Val	2915 Lys	Phe	Asn	Gly	Ala 2935 Trp	2920 Gln	) Val	Asn	Pro	Lys 2940 Ile	2925 Phe )	Lys	Gln	

Ala Thr Pro Leu Ser Ile Lys Glu Gln Glu Gly Ser Asp Leu Gly Pro 2965 2970 2980 2975  Gln Glu Gln Leu Glu Gln Val Leu Asn Met Leu Asn Val Asn Leu Asp 2980 2985 2990 2995  Fro Pro Leu Asp Lys Val Ile Asn Asn Cys Arg Asn Ile Cys Asn Ile 2995 3000 3005  Thr Thr Leu Asp Glu Glu Met Val Lys Thr Arg Ala Lys Val Leu Arg 3010 3015  Ser Ile Tyr Glu Phe Leu Ser Ala Glu Lys Arg Glu Phe Arg Phe Gln 3025 3036 3035  Leu Arg Gly Val Ala Phe Val Met Val Glu Asp Gly Trp Lys Leu Leu 3067 3060  Pro Tyr Leu Tyr Lys Leu Pro Leu Glu Leu Glu Tyr Glu Ser Asp Phe Lys 3060 3065  Pro Tyr Leu Tyr Lys Leu Pro Leu Glu Leu Gly Thr Phe His Gln Leu 3075 3080 3080  Phe Lys His Leu Gly Thr Glu Asp Ile Ile Ser Thr Lys Gln Tyr Val 3090  Glu Val Leu Ser Arg Ile Phe Lys Asn Ser Glu Gly Lys Gln Leu Asp 3100 3110  S110 3110  S115  Ser Leu Gln Asn Asp Ser Val Lys Val Arg Ser Asp Leu Gly Lasn Val 3140  Arg Asp Leu Ala Leu Tyr Leu Pro Ser Gln Asp Gly Arg Leu Val Lys 3155  Ser Leu Gln Asn Asp Ser Val Lys Val Arg Ser Asp Leu Glu Asn Val 3140  Arg Asp Leu Ala Leu Tyr Leu Pro Ser Gln Asp Gly Arg Leu Val Lys 3155  Ser Ser Ile Leu Val Phe Asp Asp Ala Pro His Tyr Lys Ser Arg Ile 3160  Arg Asp Leu Ala Clu Tyr Leu Pro Ser Gln Asp Leu Ser Gln Cys Tyr 3185  Ser Ser Ile Leu Val Phe Asp Asp Ala Pro His Tyr Lys Ser Arg Ile 3170  Gln Gly Asn Ile Gly Val Gln Met Leu Val Asp Leu Ser Gln Cys Tyr 3185  Gln Lys Asp His Gly Phe His Thr Lys Leu Ile Met Leu Phe Pro 3200  Asp Glu Glu Thr Pro Lys Val Cys Gln Phe Gly Ala Leu Cys Ser Leu 3215  Gln Gly Arg Leu Gln Leu Leu Leu Ser Ser Ile Leu Glu Glu Gln Leu 3220  Asp Glu Glu Thr Pro Lys Val Cys Gln Phe Gly Ala Leu Cys Ser Leu 3235  Gln Gly Arg Leu Gln Leu Leu Leu Ser Ser Glu Gly Phe Lie Thr Gly 3250  3260  Asp Fle Glu Lys Leu Gln Thr Thr Leu Asp Ser Asp Ser Lys 3300  Asn Pro Ile Pro His Ser Arg Ser Glu Thr Phe Ala Phe Leu Lys Arg 3315  Phe Gly Asn Ala Val Ile Leu Leu Tyr Ile Gln His Ser Asp Ser Lys 3300  Asp Asn Ale Val Ile Arg Leu Cys Lys Leu App Cru Leu Lys Ser Ala Thr 3346  Asp Asn Ale Val Ile Arg Leu Cys Lys Leu App Ser Leu Gly	Ala Thr Dro Leu	Ser Tle La	e Glu Gla Glu	Cly Ser Asp Leu G	ly Pro
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Signature   Sign					ly Phe
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Donalde